

Appendix RF Test Data for BLE

Company: : Shenzhen Kingsong Technology Co., Ltd.

EUT : Electric Cargo Bike

FCC ID: : 2BXHS-KS-M9

Model Number : KingSong Cove (KS-M9)

Report No. : HTT202607087F01

Reviewed By : Heber He

1. Duty Cycle

1.1 Test Result

1.1.1 Ant1

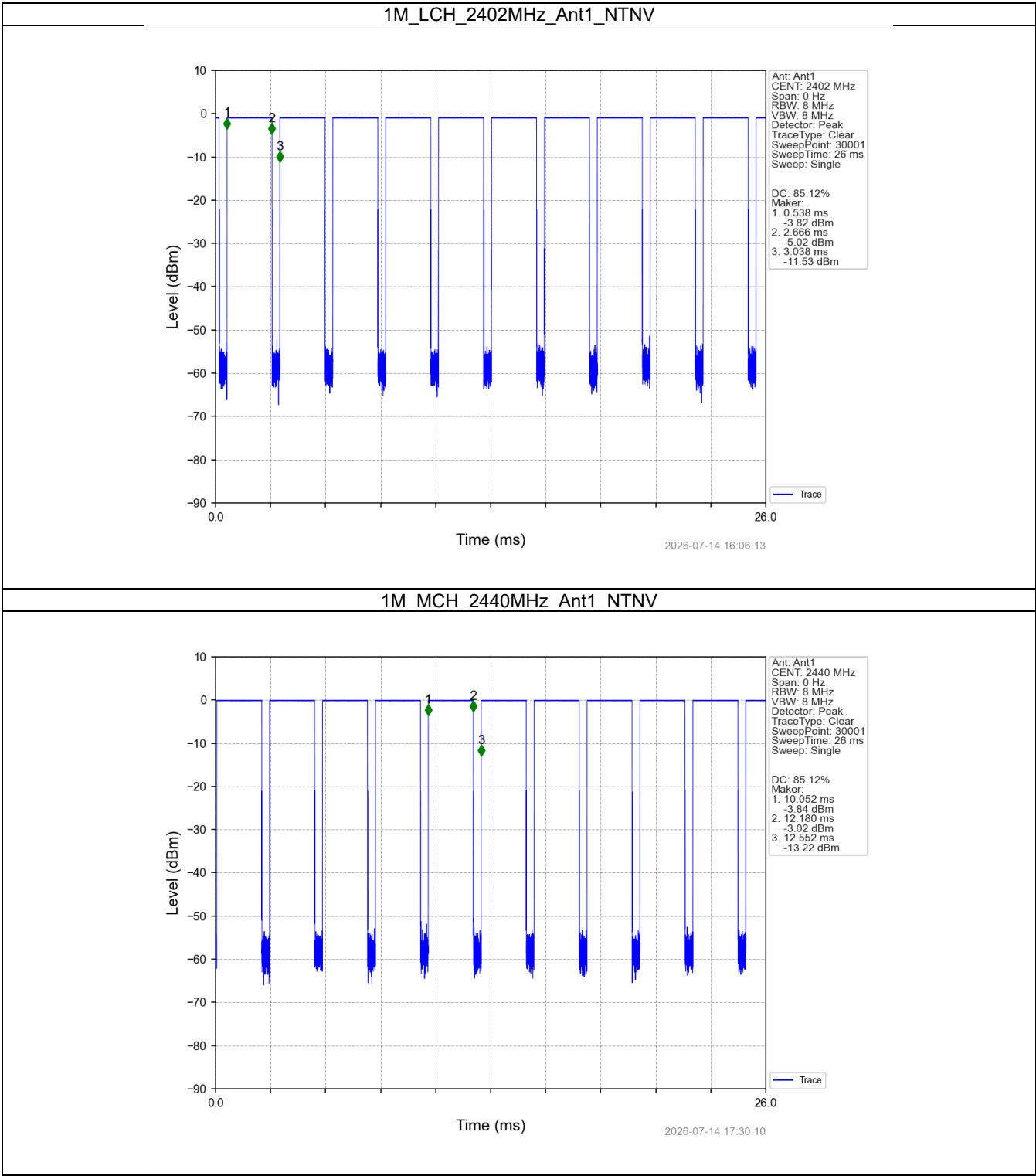
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1M	SISO	2402	2.128	2.500	85.12	0.70	0.01
		2440	2.128	2.500	85.12	0.70	0.03
		2480	2.127	2.499	85.11	0.70	0.01
2M	SISO	2402	1.075	2.499	43.02	3.66	0.02
		2440	1.076	2.500	43.04	3.66	0.02
		2480	1.076	2.501	43.02	3.66	0.03

Ant2

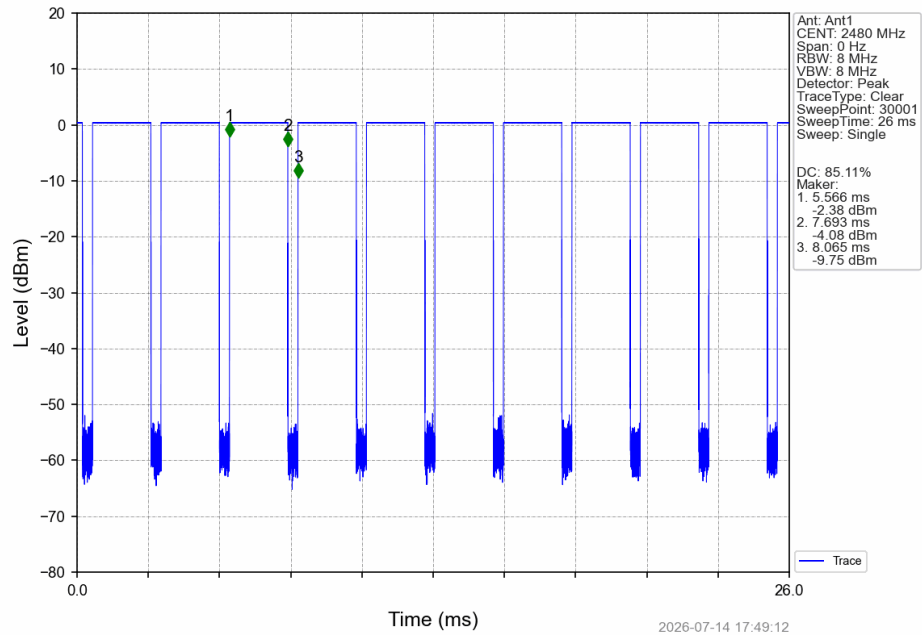
Ant2							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
1M	SISO	2402	0.402	0.625	64.32	1.92	0.03
		2440	0.403	0.626	64.38	1.91	0.00
		2480	0.402	0.625	64.32	1.92	0.00
2M	SISO	2402	0.205	0.626	32.75	4.85	0.00
		2440	0.205	0.626	32.75	4.85	0.00
		2480	0.205	0.625	32.80	4.84	0.02

1.2 Test Graph

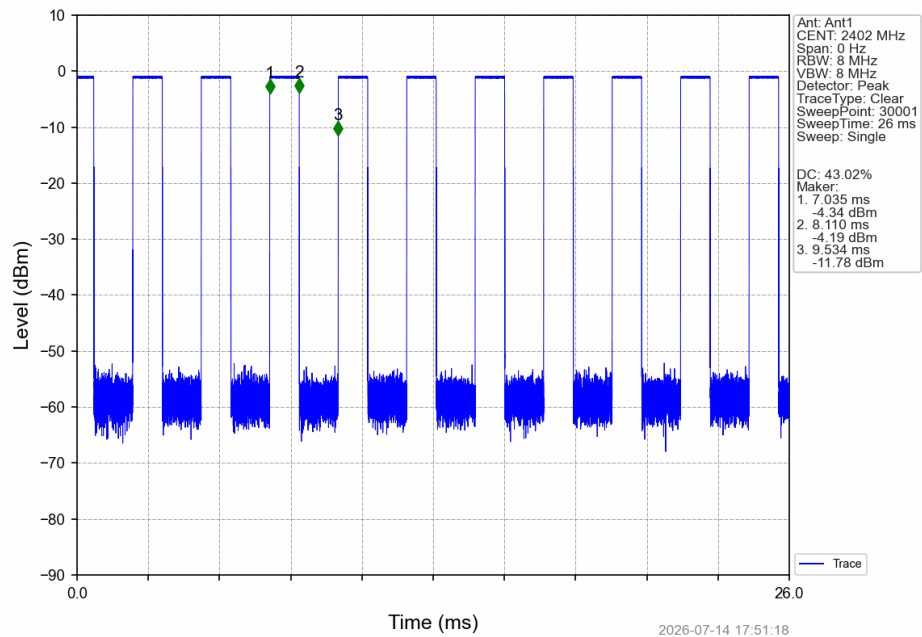
1.2.1 Ant1



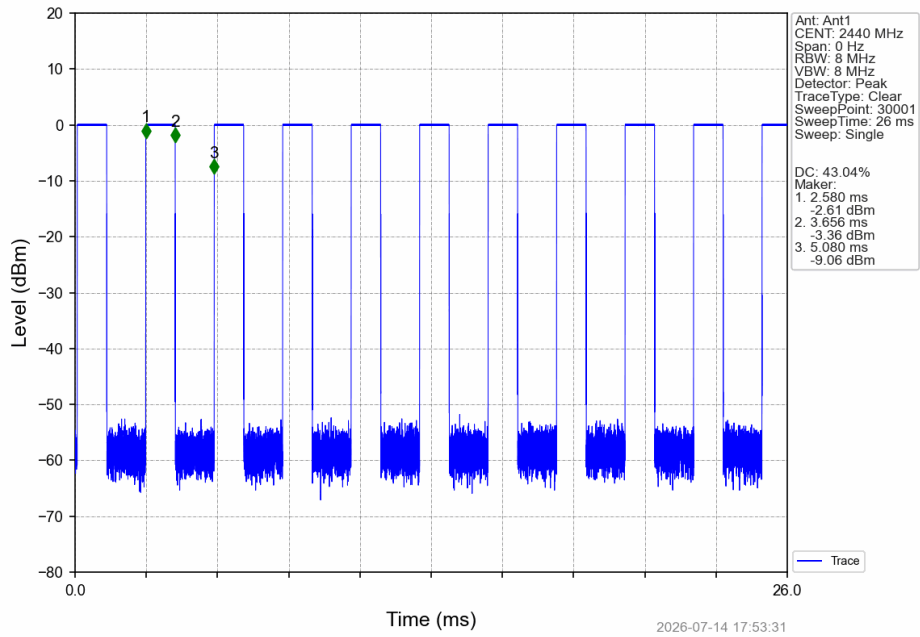
1M_HCH_2480MHz_Ant1_NTNV



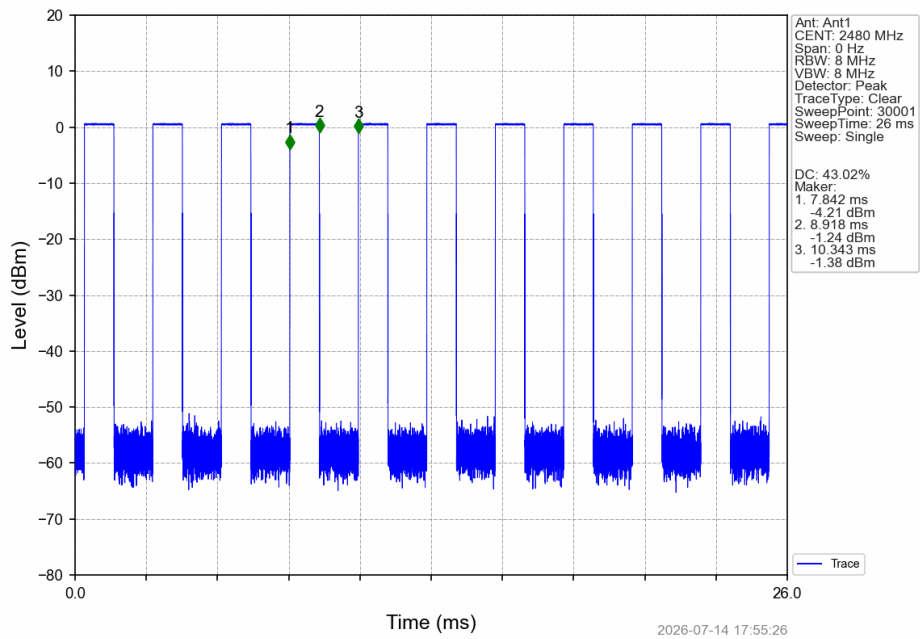
2M_LCH_2402MHz_Ant1_NTNV



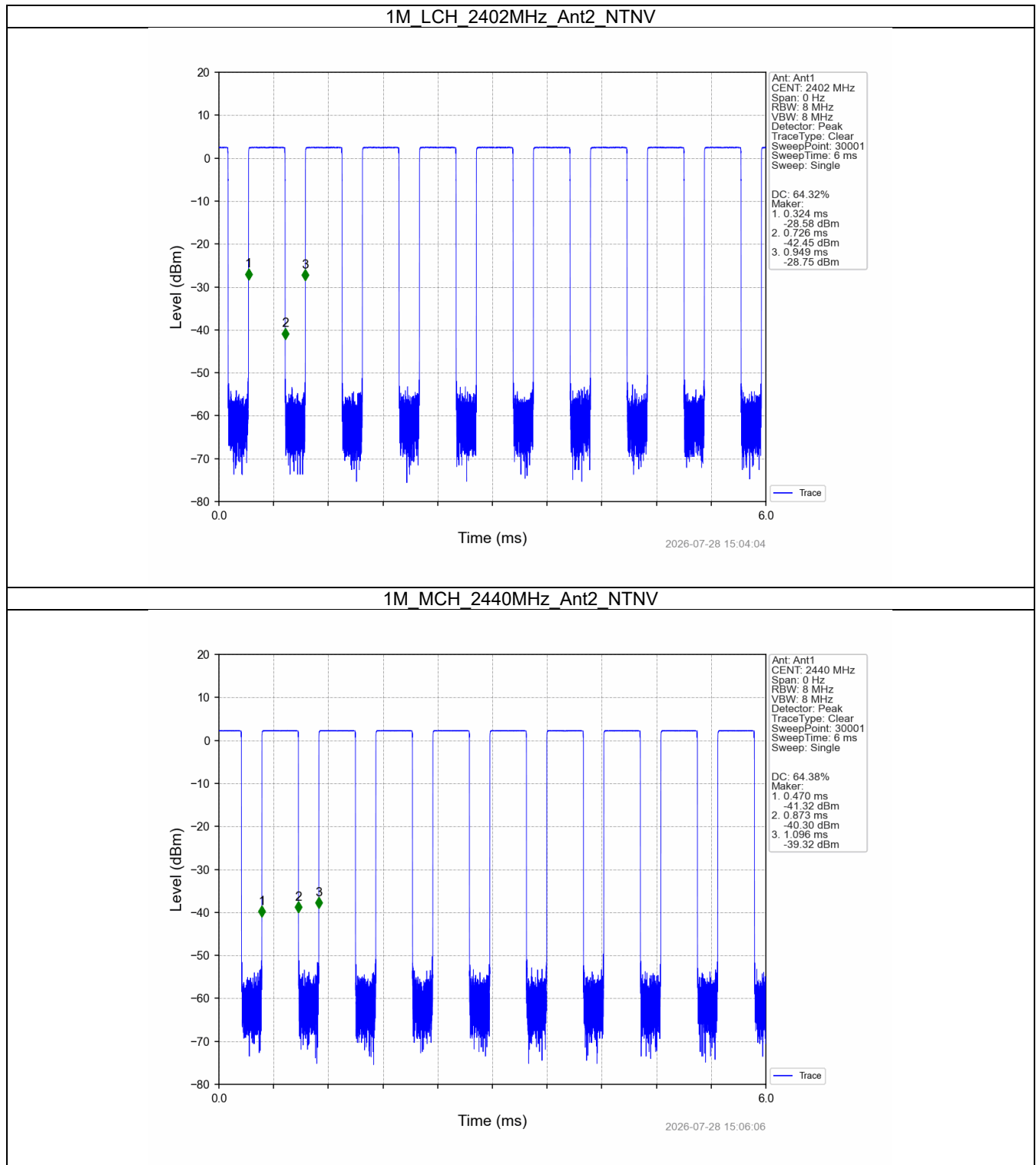
2M_MCH_2440MHz_Ant1_NTNV



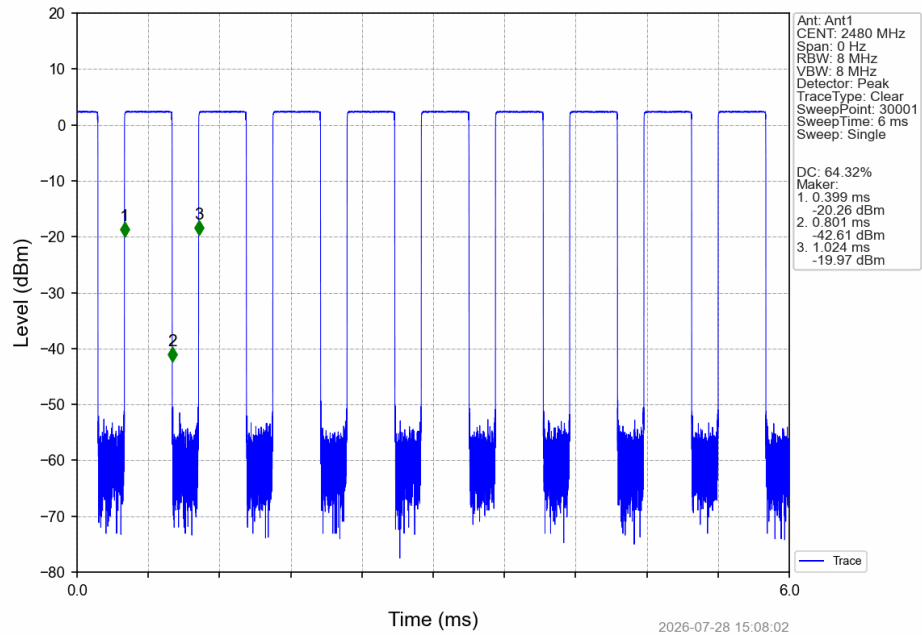
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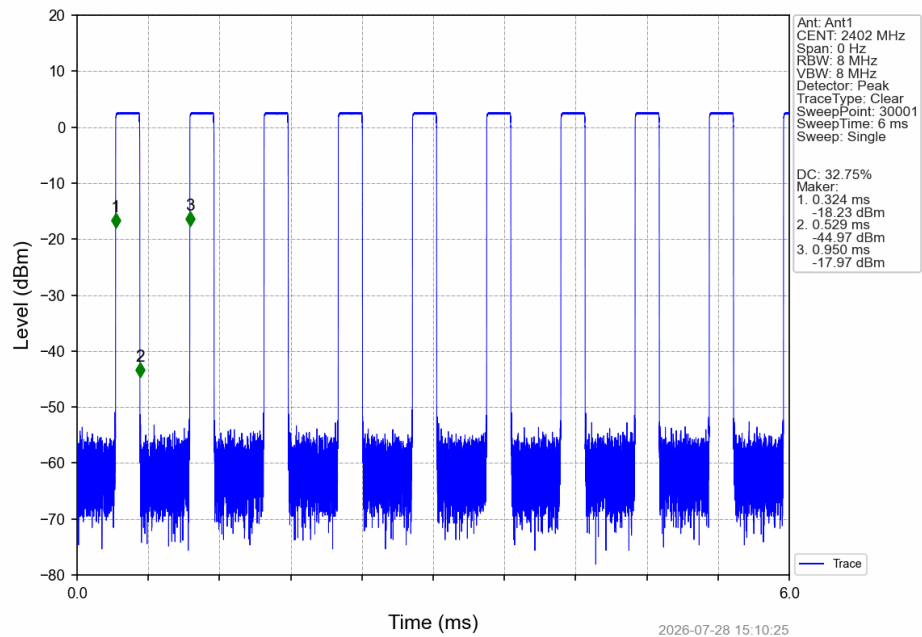
Ant2



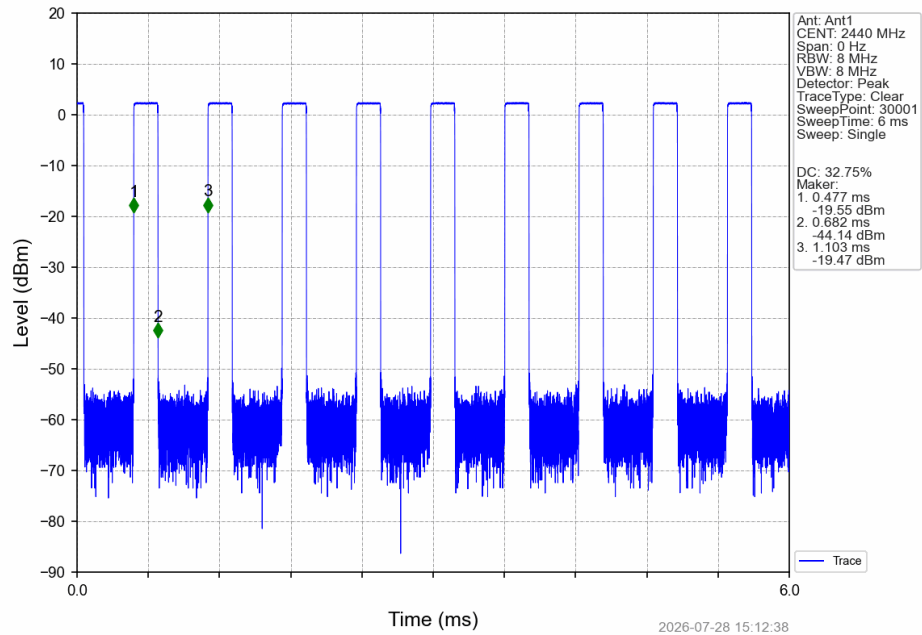
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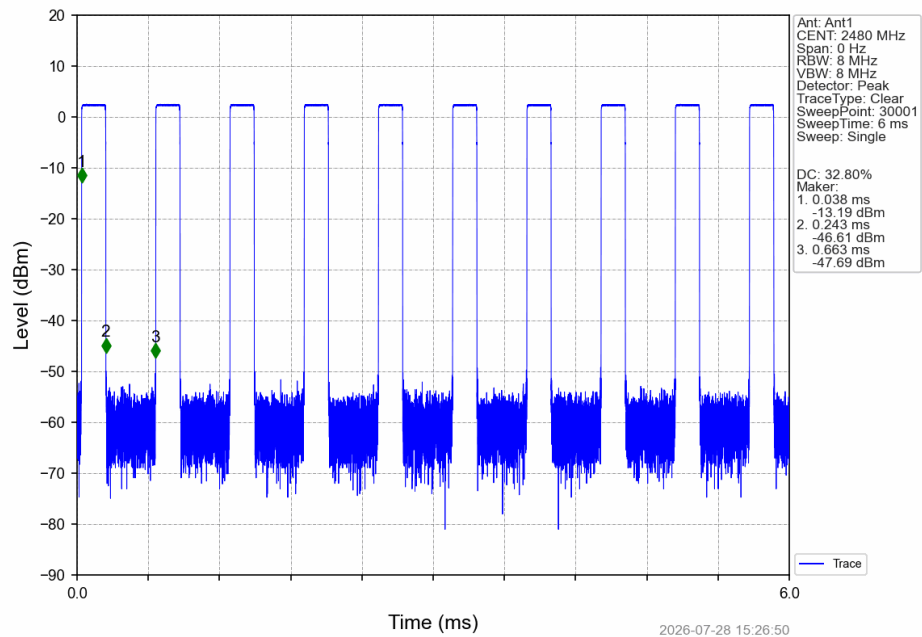
2M_LCH_2402MHz_Ant2_NTNV



2M_MCH_2440MHz_Ant2_NTNV



2M_HCH_2480MHz_Ant2_NTNV



2. Bandwidth

2.1 Test Result

2.1.1 OBW

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.147	/	Pass
		2440	1	1.168	/	Pass
		2480	1	1.222	/	Pass
2M	SISO	2402	1	2.084	/	Pass
		2440	1	2.087	/	Pass
		2480	1	2.116	/	Pass

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	2	1.066	/	Pass
		2440	2	1.073	/	Pass
		2480	2	1.093	/	Pass
2M	SISO	2402	2	2.105	/	Pass
		2440	2	2.124	/	Pass
		2480	2	2.127	/	Pass

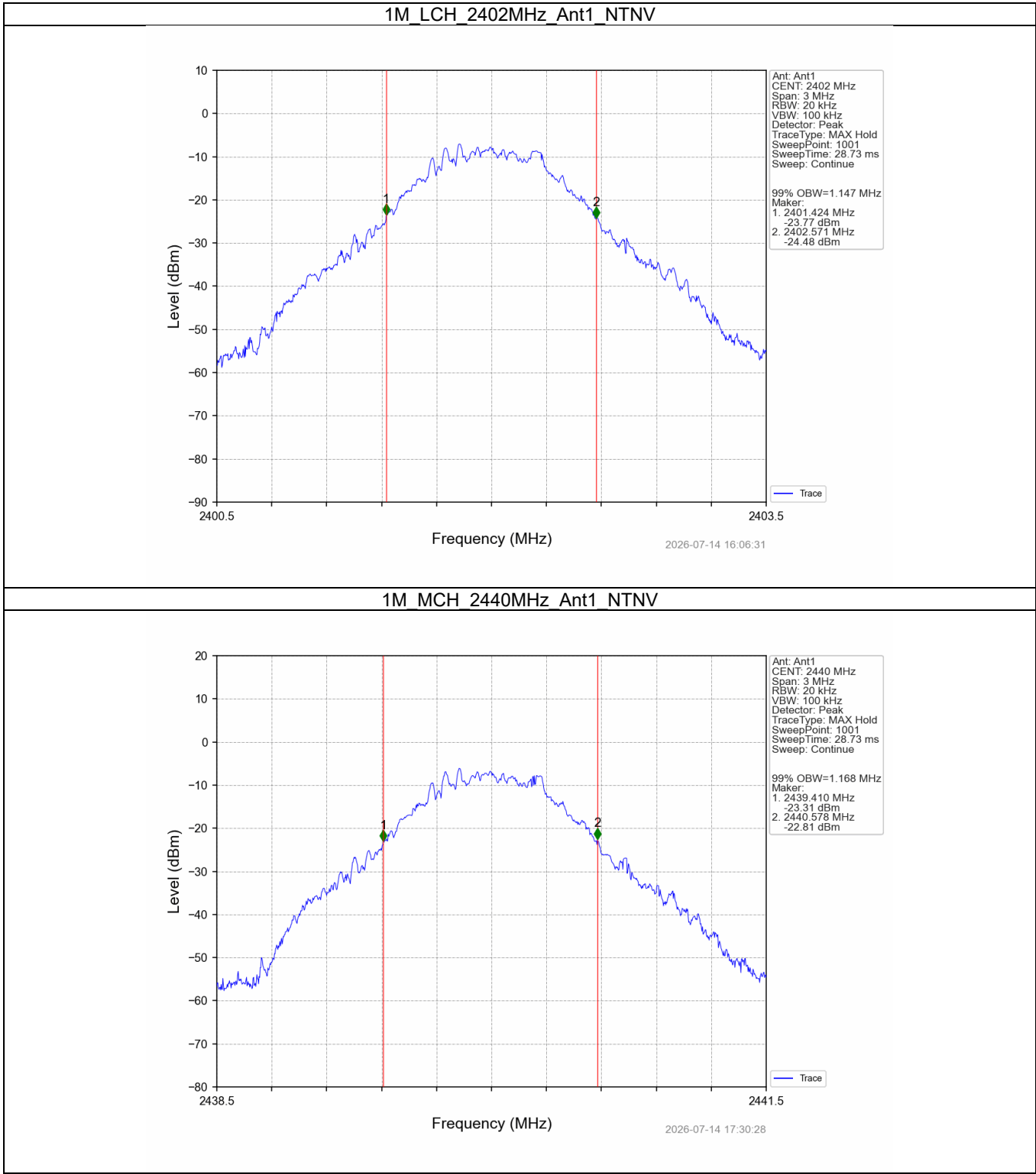
2.1.2 6dB BW

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.746	≥ 0.5	Pass
		2440	1	0.762	≥ 0.5	Pass
		2480	1	0.721	≥ 0.5	Pass
2M	SISO	2402	1	1.223	≥ 0.5	Pass
		2440	1	1.289	≥ 0.5	Pass
		2480	1	1.172	≥ 0.5	Pass

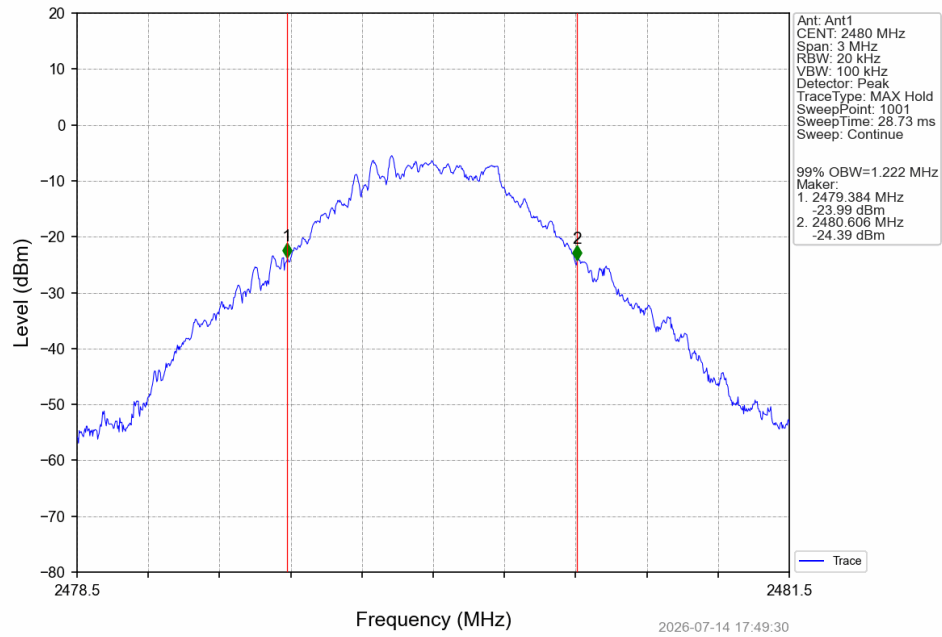
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	2	0.731	≥ 0.5	Pass
		2440	2	0.736	≥ 0.5	Pass
		2480	2	0.738	≥ 0.5	Pass
2M	SISO	2402	2	1.366	≥ 0.5	Pass
		2440	2	1.373	≥ 0.5	Pass
		2480	2	1.378	≥ 0.5	Pass

2.2 Test Graph

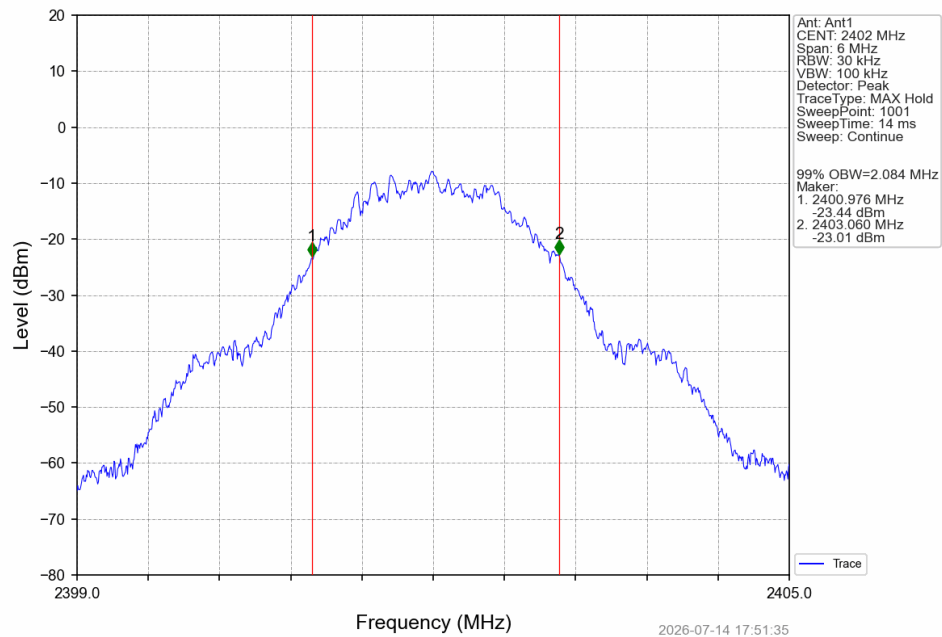
2.2.1 OBW



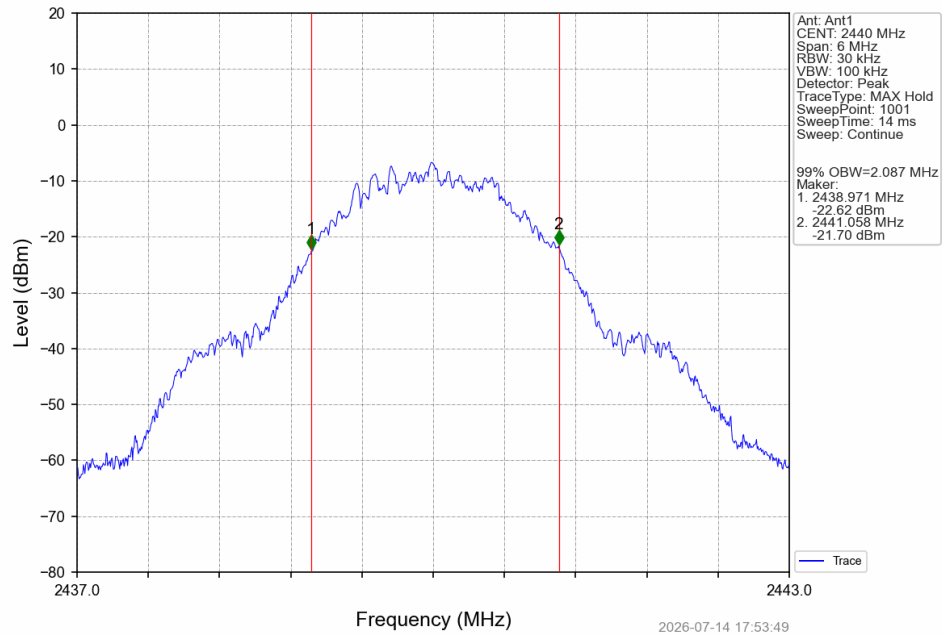
1M_HCH_2480MHz_Ant1_NTNV



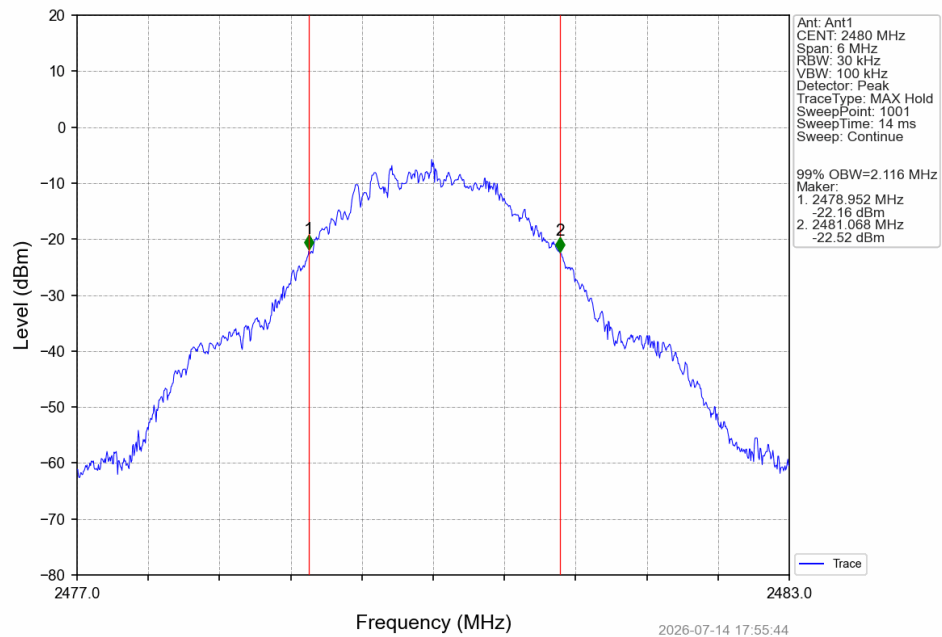
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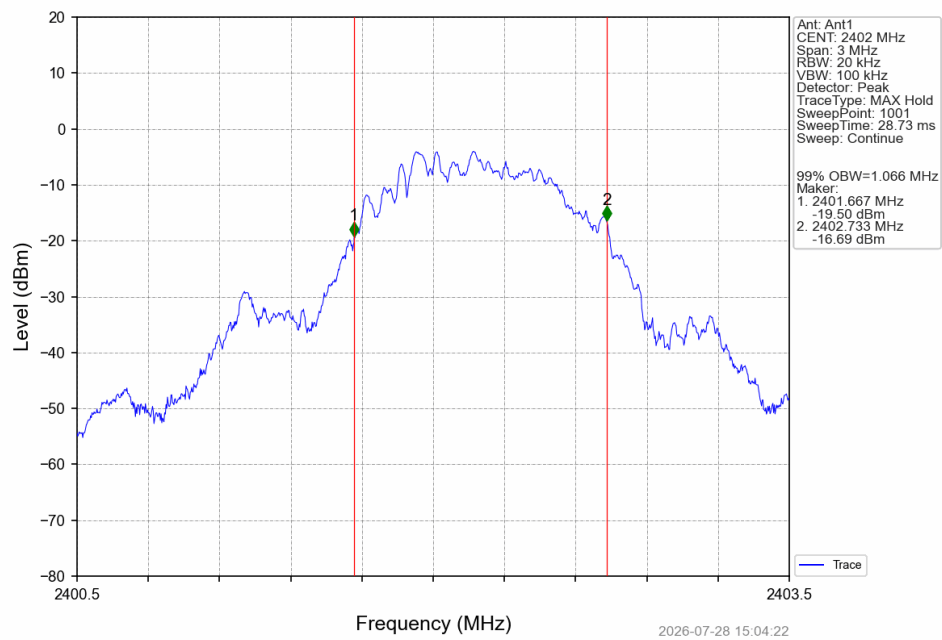
2M_MCH_2440MHz_Ant1_NTNV



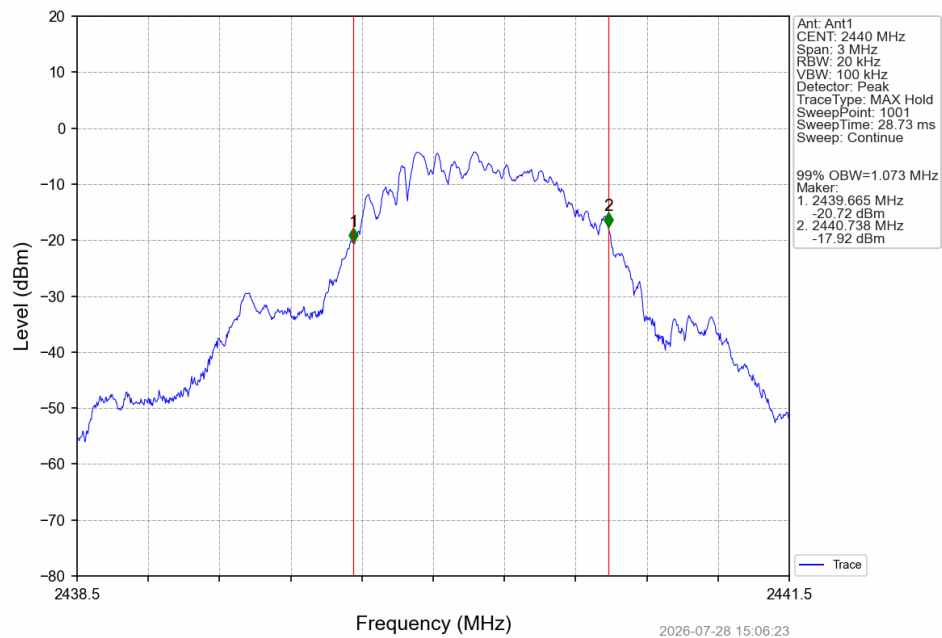
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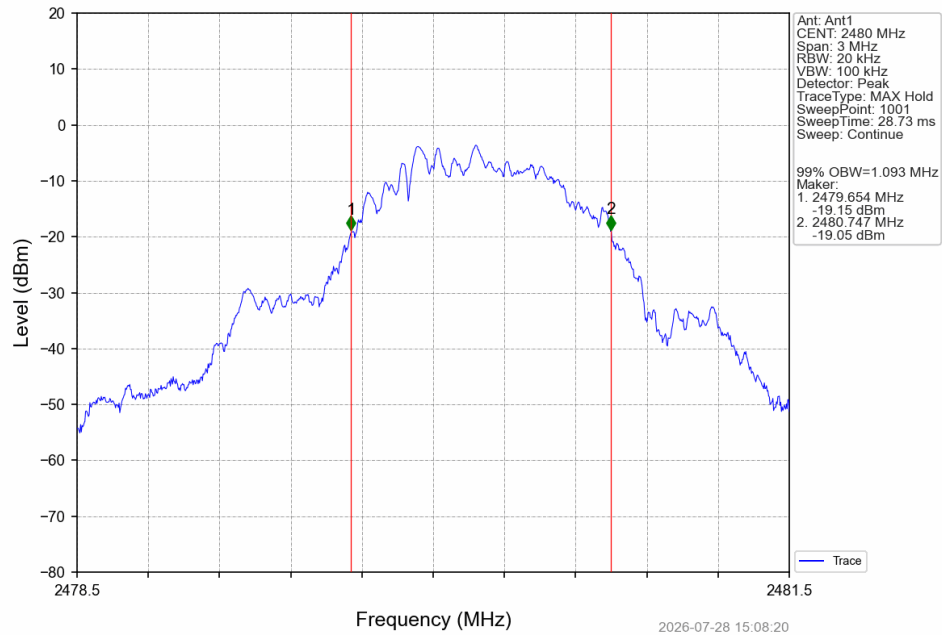
1M_LCH_2402MHz_Ant2_NTNV



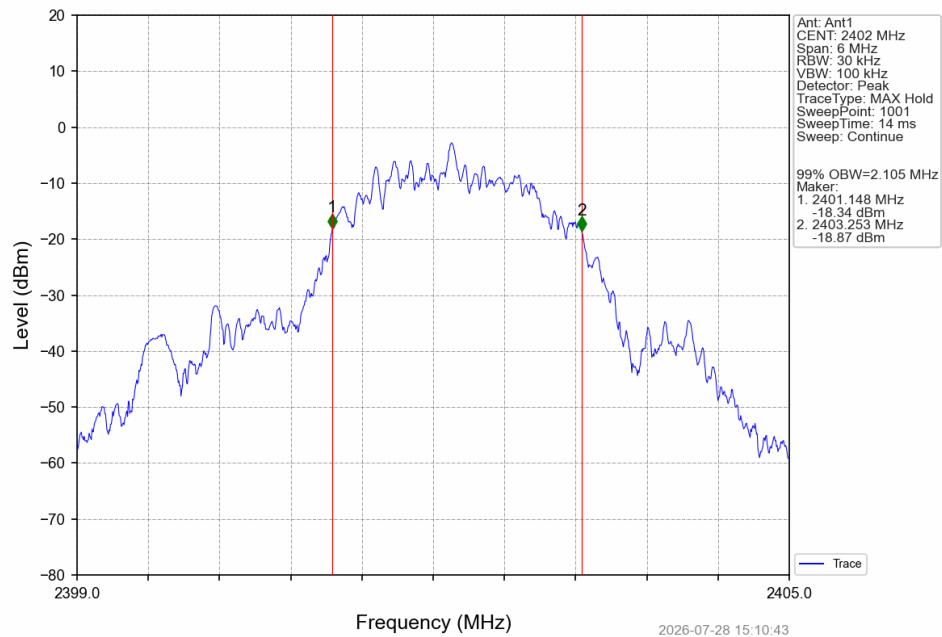
1M_MCH_2440MHz_Ant2_NTNV



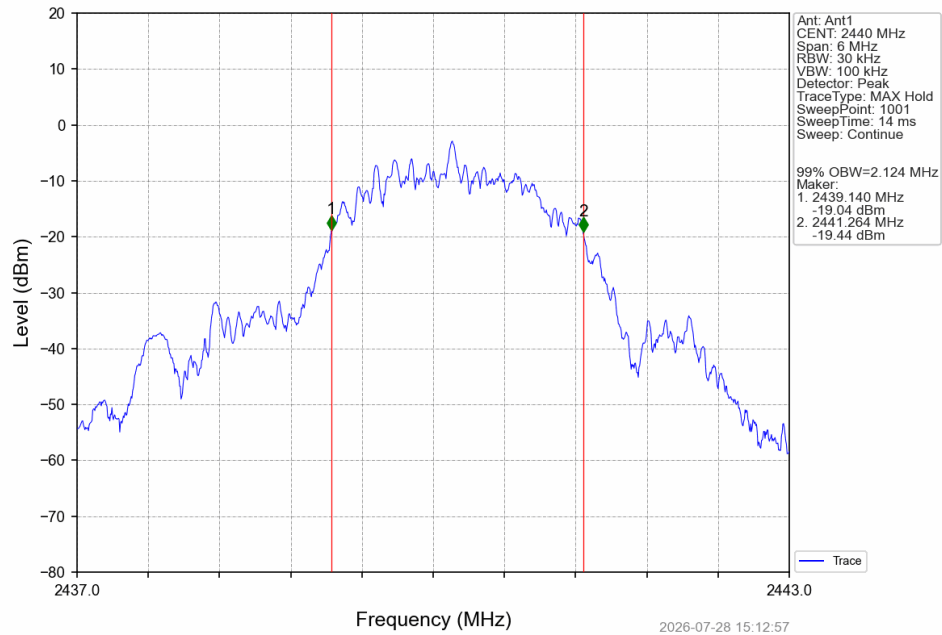
1M_HCH_2480MHz_Ant2_NTNV



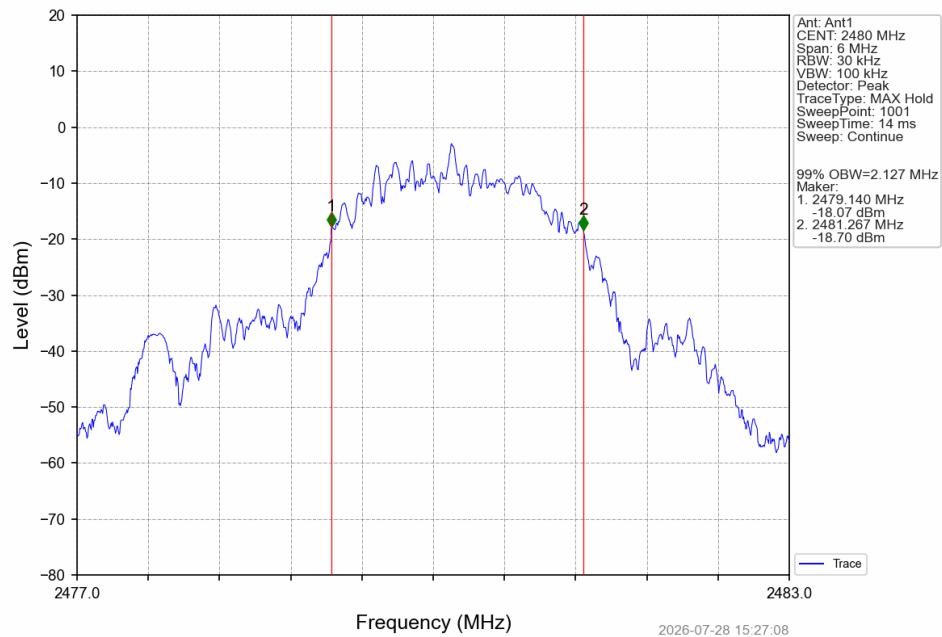
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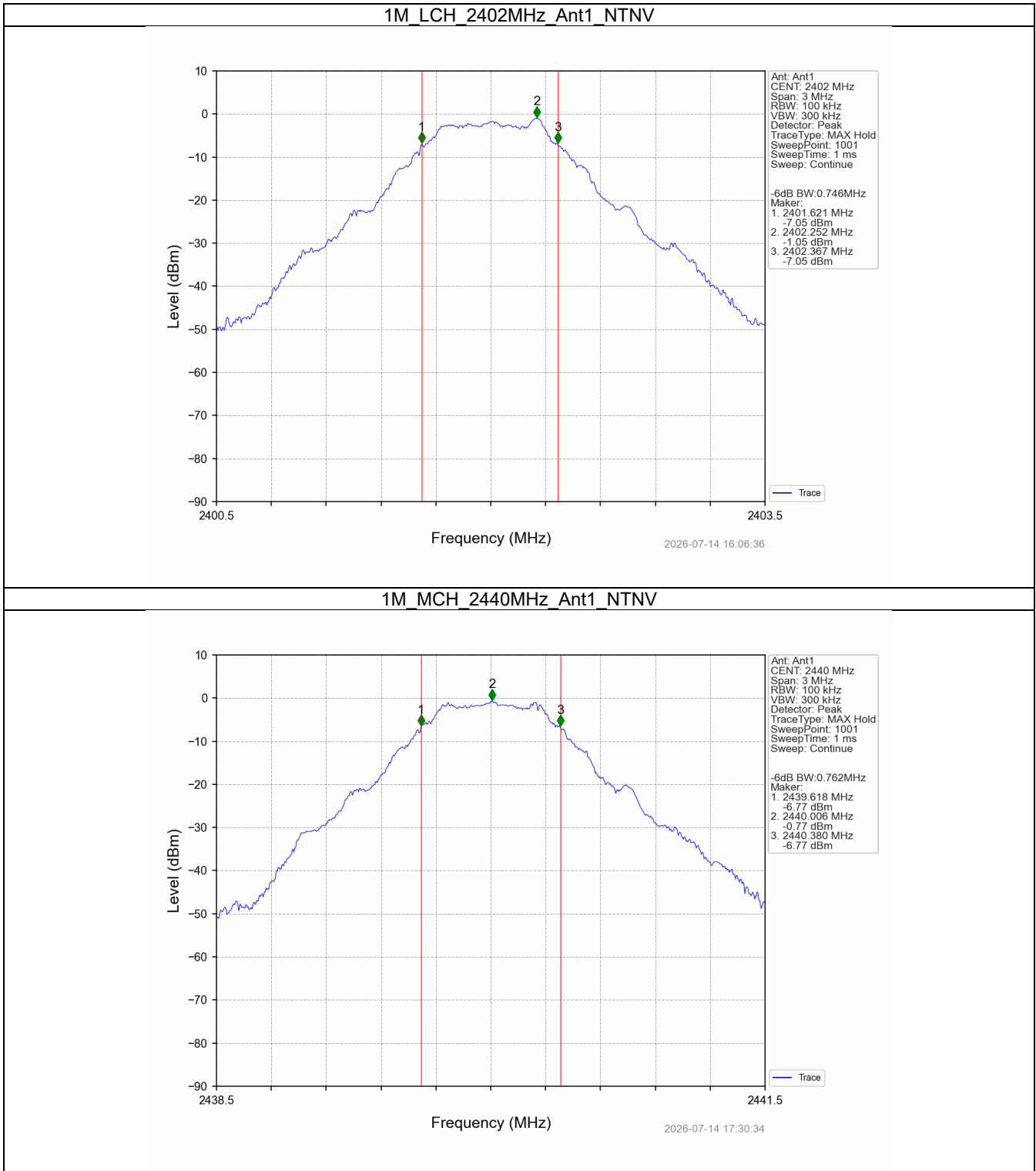
2M_MCH_2440MHz_Ant2_NTNV



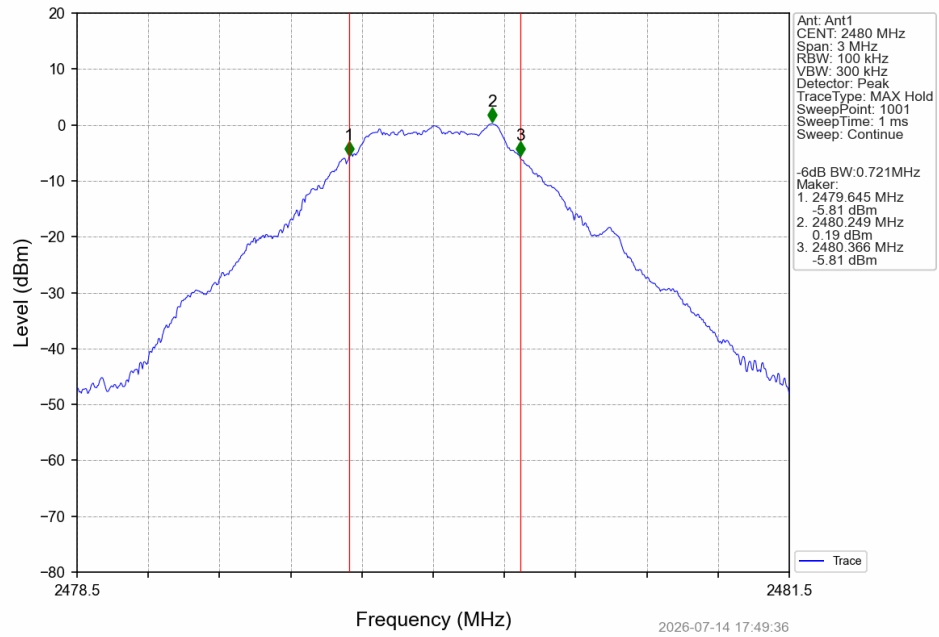
2M_HCH_2480MHz_Ant2_NTNV



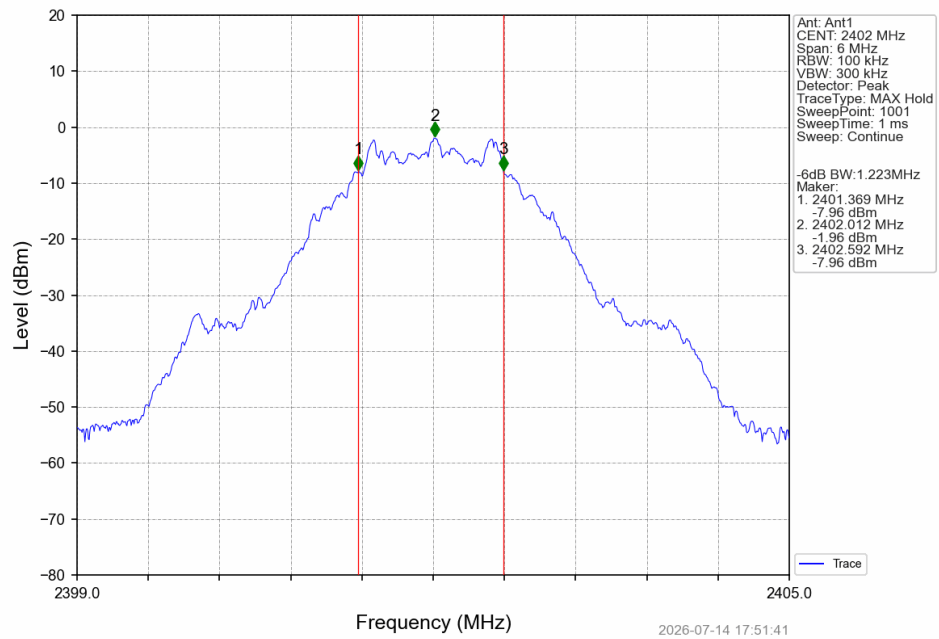
2.2.2 6dB BW



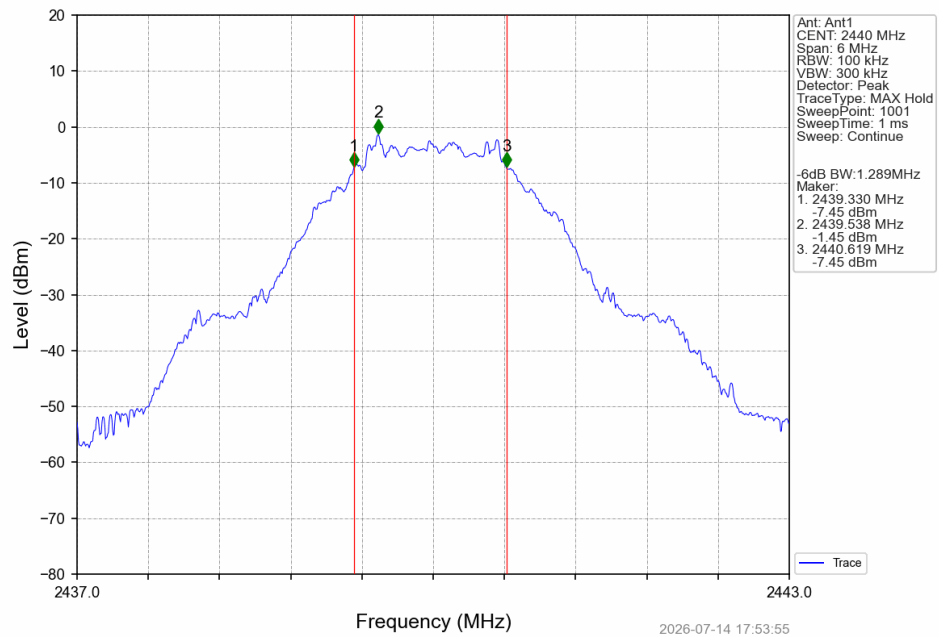
1M_HCH_2480MHz_Ant1_NTNV



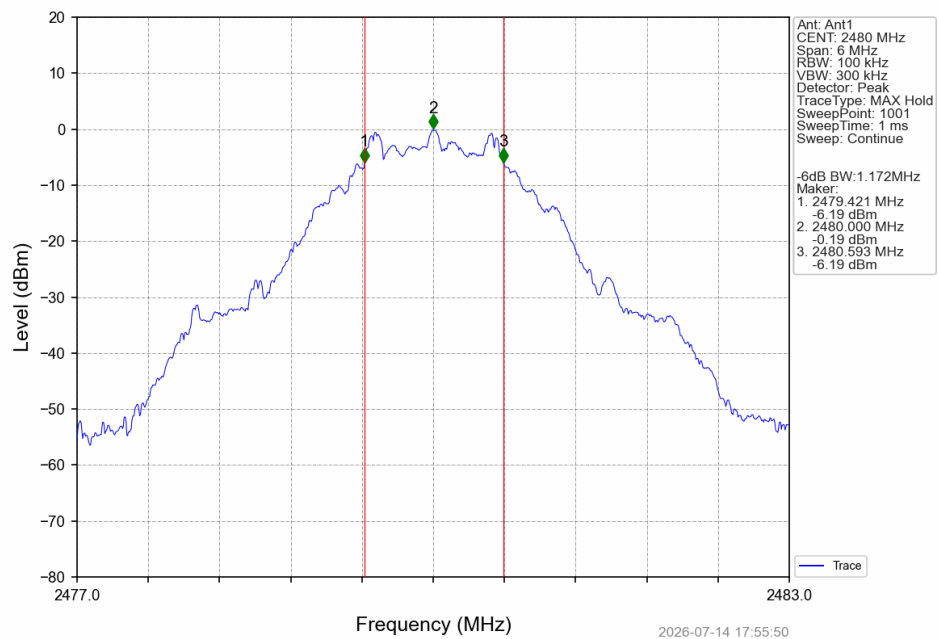
2M_LCH_2402MHz_Ant1_NTNV



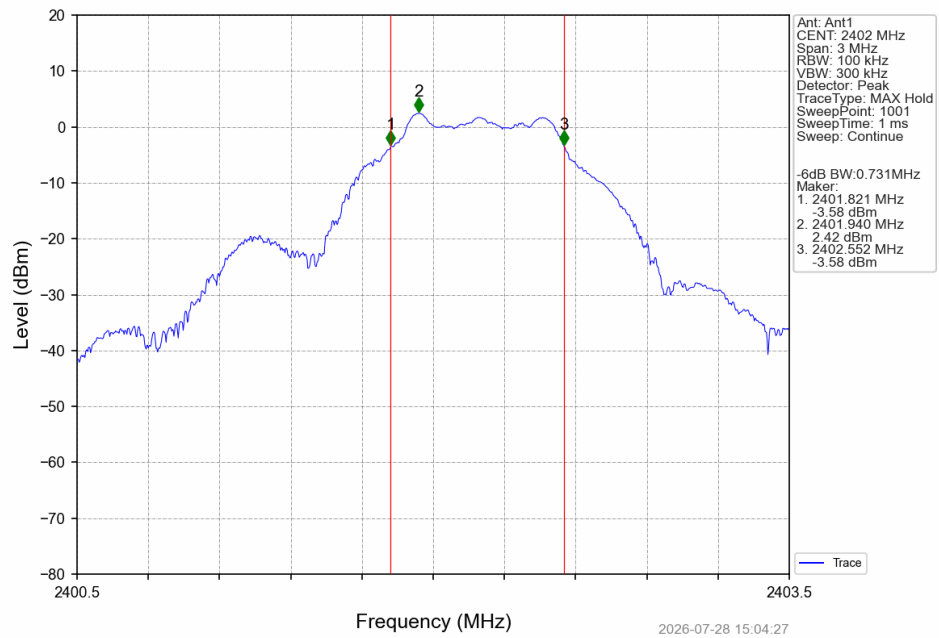
2M_MCH_2440MHz_Ant1_NTNV



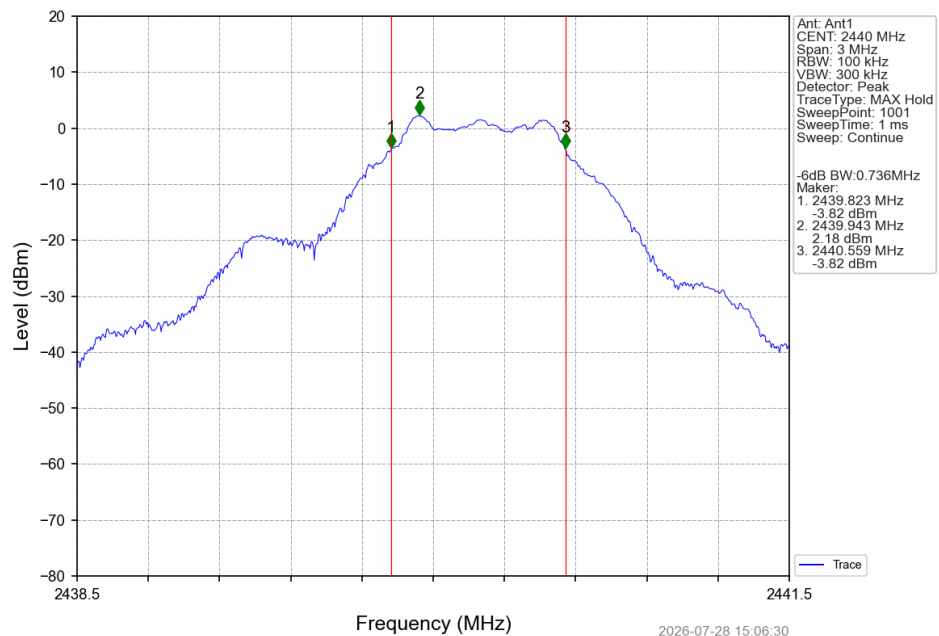
2M_HCH_2480MHz_Ant1_NTNV



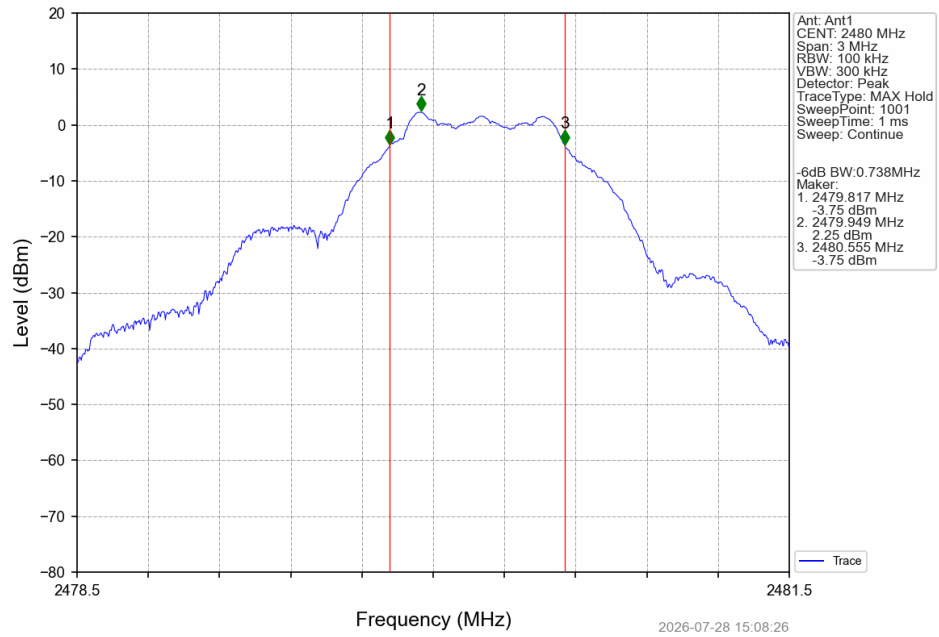
1M_LCH_2402MHz_Ant2_NTNV



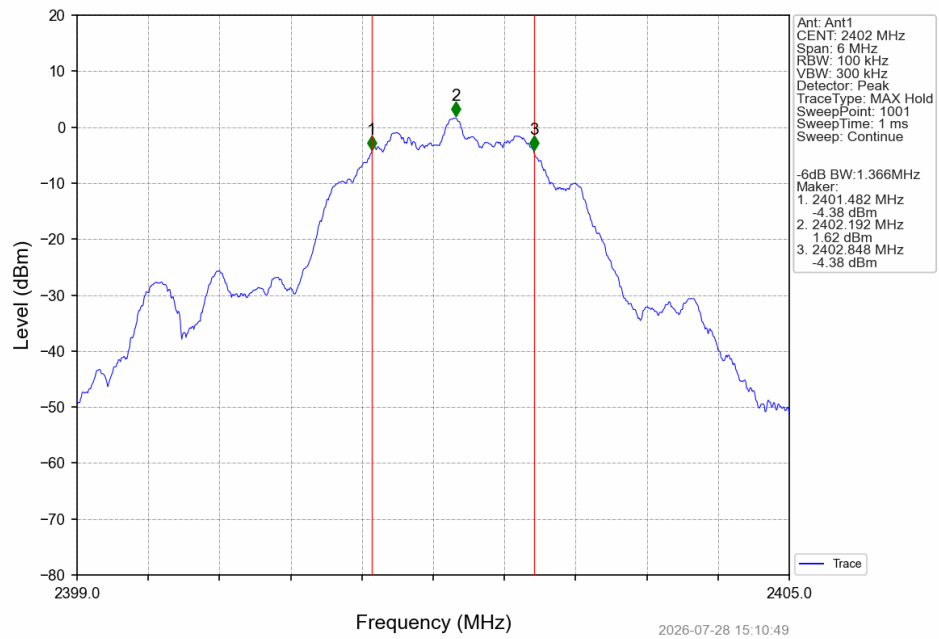
1M_MCH_2440MHz_Ant2_NTNV



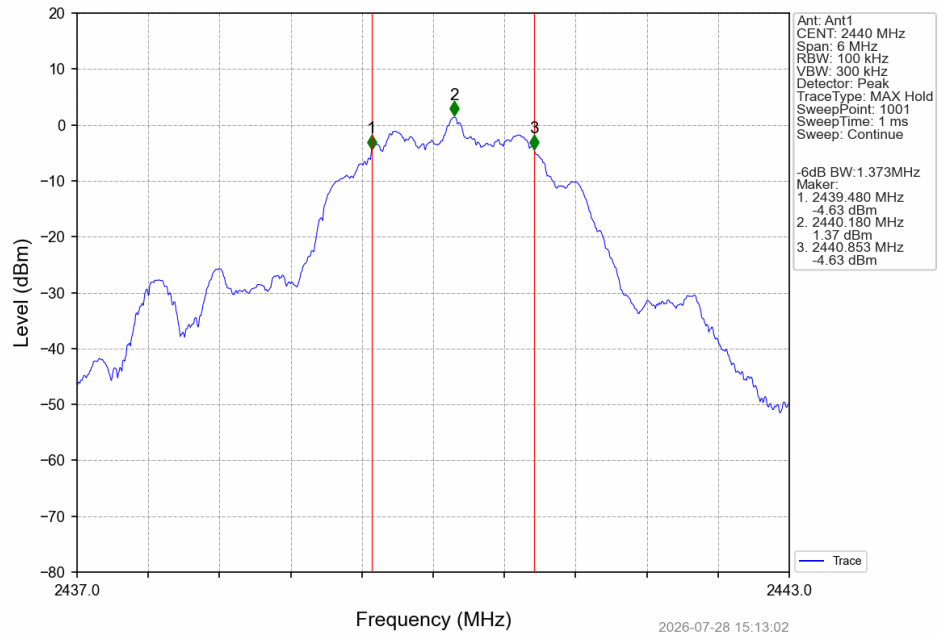
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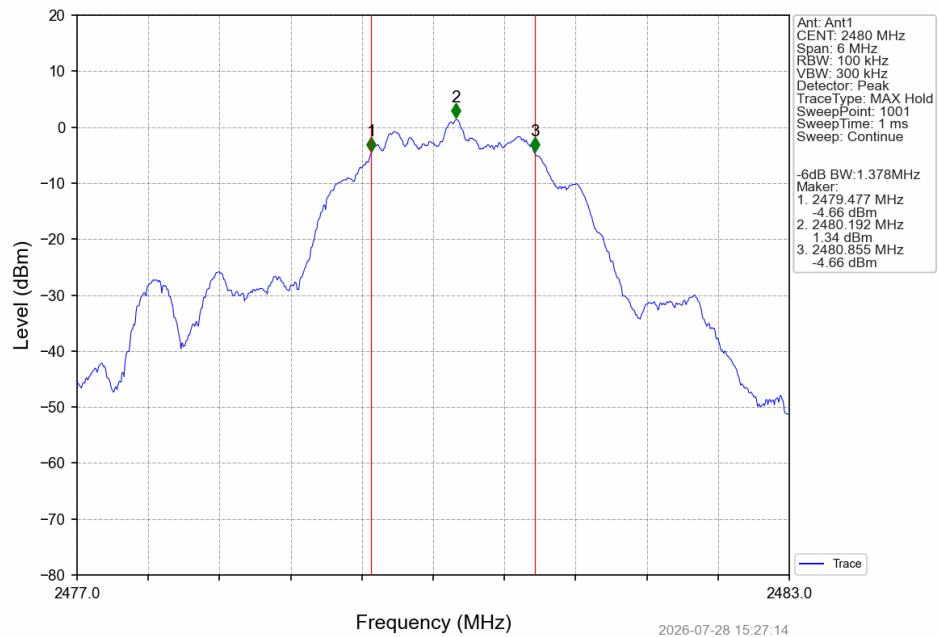
2M_LCH_2402MHz_Ant2_NTNV



2M_MCH_2440MHz_Ant2_NTNV



2M_HCH_2480MHz_Ant2_NTNV



3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	-0.94	<=30	Pass
		2440	-0.12	<=30	Pass
		2480	0.37	<=30	Pass
2M	SISO	2402	-1.04	<=30	Pass
		2440	-0.01	<=30	Pass
		2480	0.53	<=30	Pass

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			Ant2	Limit	
1M	SISO	2402	2.48	<=30	Pass
		2440	2.24	<=30	Pass
		2480	2.34	<=30	Pass
2M	SISO	2402	2.48	<=30	Pass
		2440	2.25	<=30	Pass
		2480	2.37	<=30	Pass

4. Maximum Power Spectral Density

4.1 Test Result

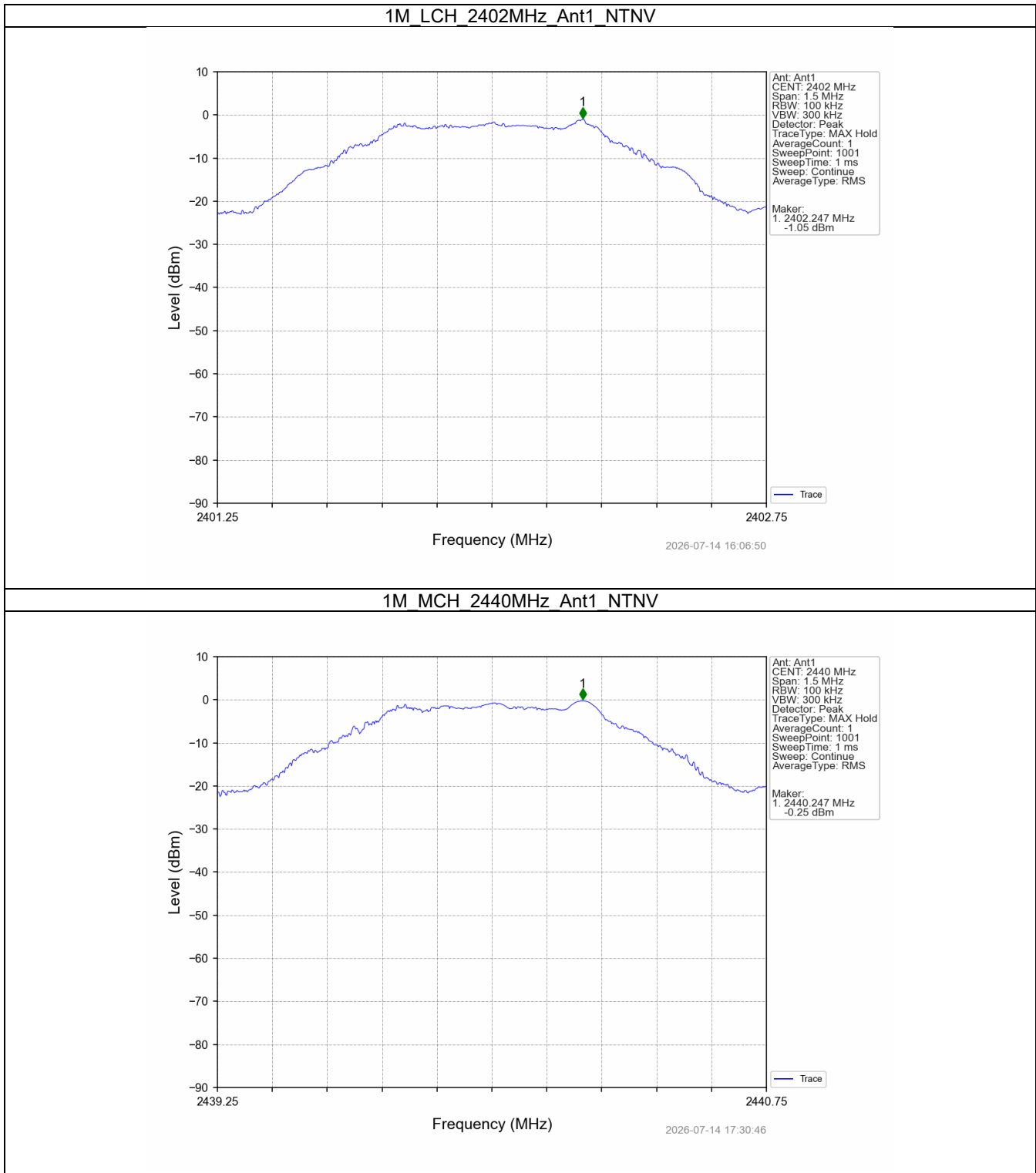
4.1.1 PSD

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit(dBm/3kHz)	
1M	SISO	2402	-1.05dBm/100kHz	<=8	Pass
		2440	-0.25dBm/100kHz	<=8	Pass
		2480	0.20dBm/100kHz	<=8	Pass
2M	SISO	2402	-1.93dBm/100kHz	<=8	Pass
		2440	-0.82dBm/100kHz	<=8	Pass
		2480	-0.18dBm/100kHz	<=8	Pass

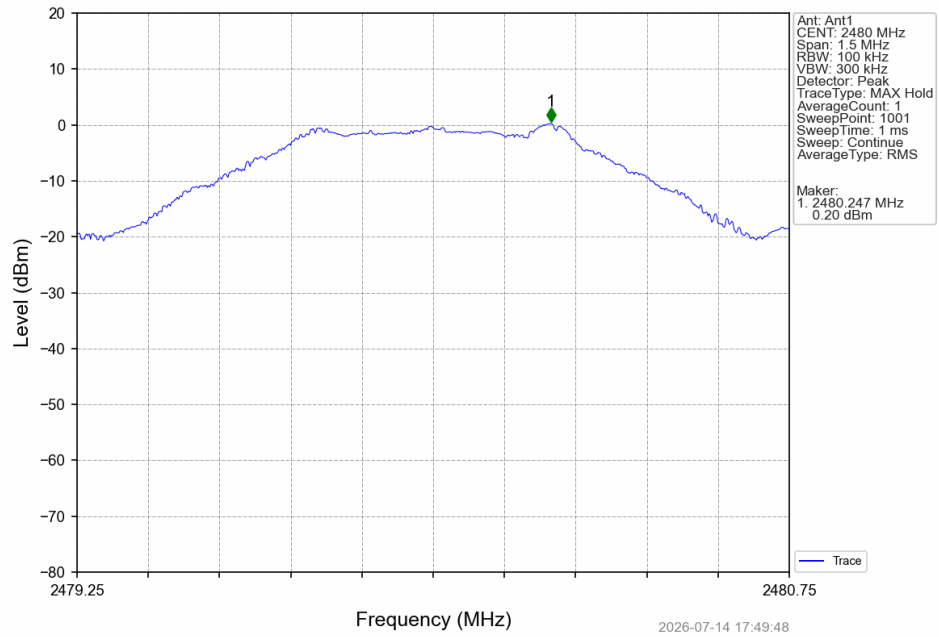
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			Ant2	Limit(dBm/3kHz)	
1M	SISO	2402	2.39dBm/100kHz	<=8	Pass
		2440	2.15dBm/100kHz	<=8	Pass
		2480	2.26dBm/100kHz	<=8	Pass
2M	SISO	2402	1.46dBm/100kHz	<=8	Pass
		2440	1.13dBm/100kHz	<=8	Pass
		2480	1.22dBm/100kHz	<=8	Pass

4.2 Test Graph

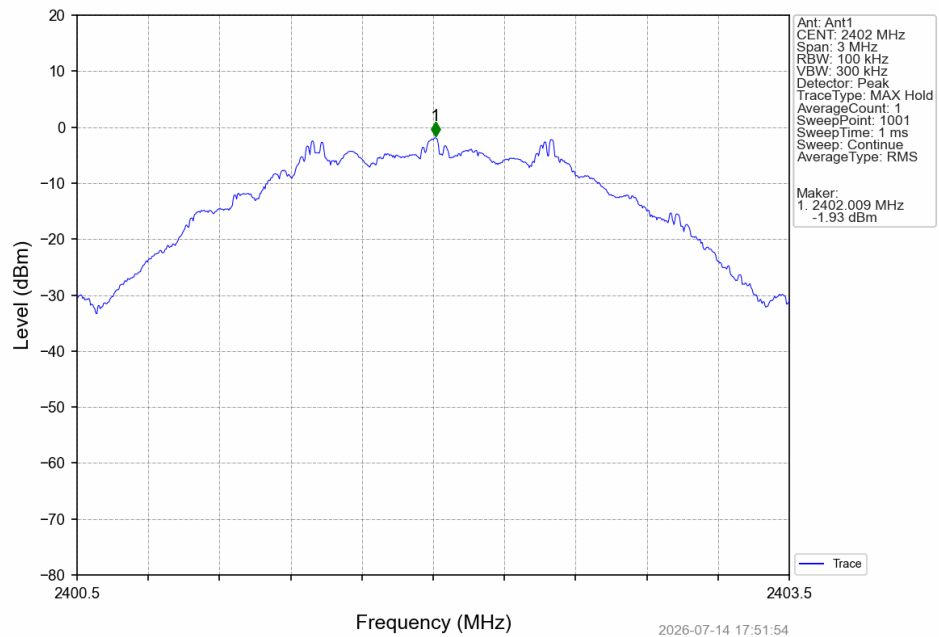
4.2.1 PSD



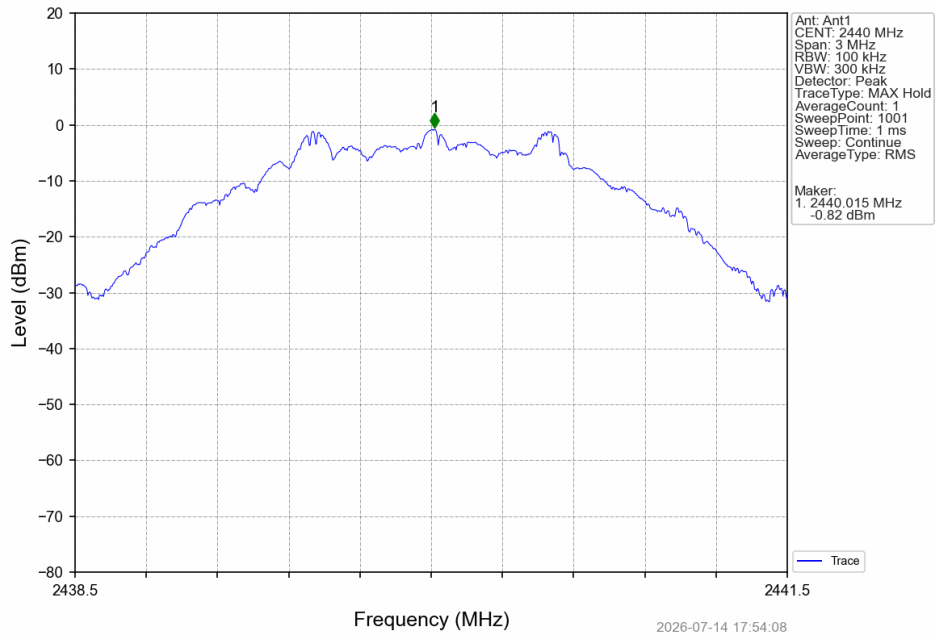
1M_HCH_2480MHz_Ant1_NTNV



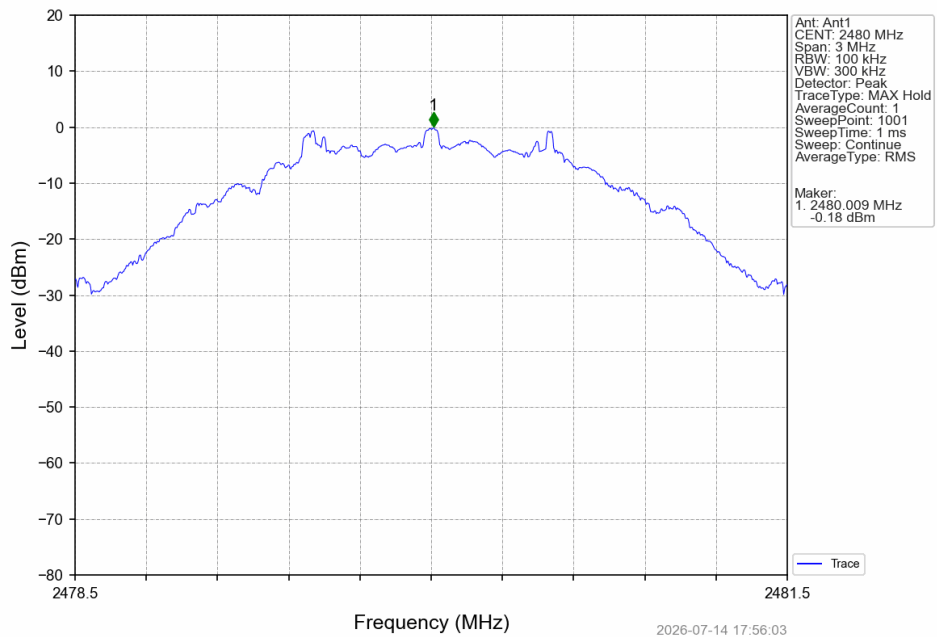
2M_LCH_2402MHz_Ant1_NTNV



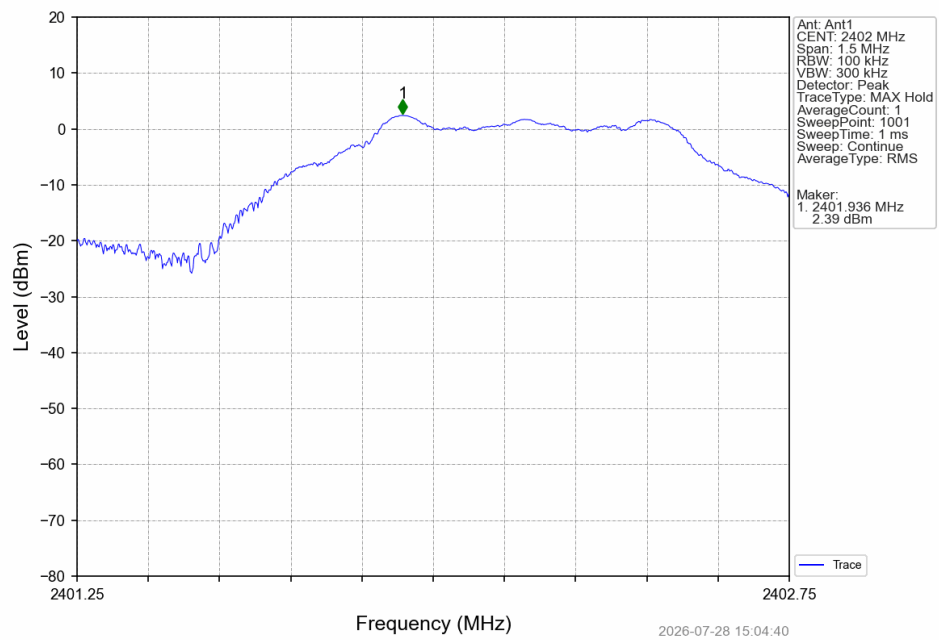
2M_MCH_2440MHz_Ant1_NTNV



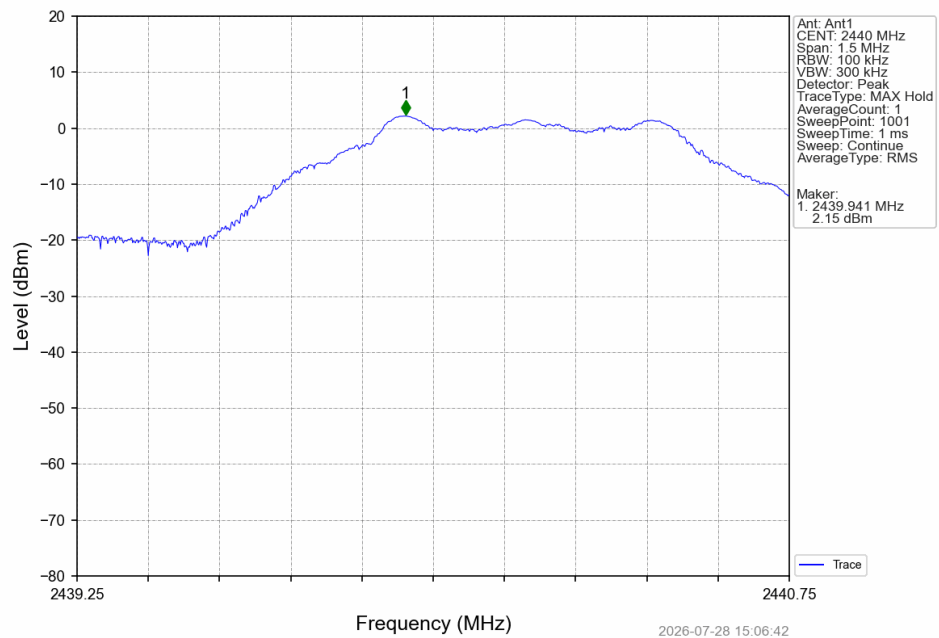
2M_HCH_2480MHz_Ant1_NTNV



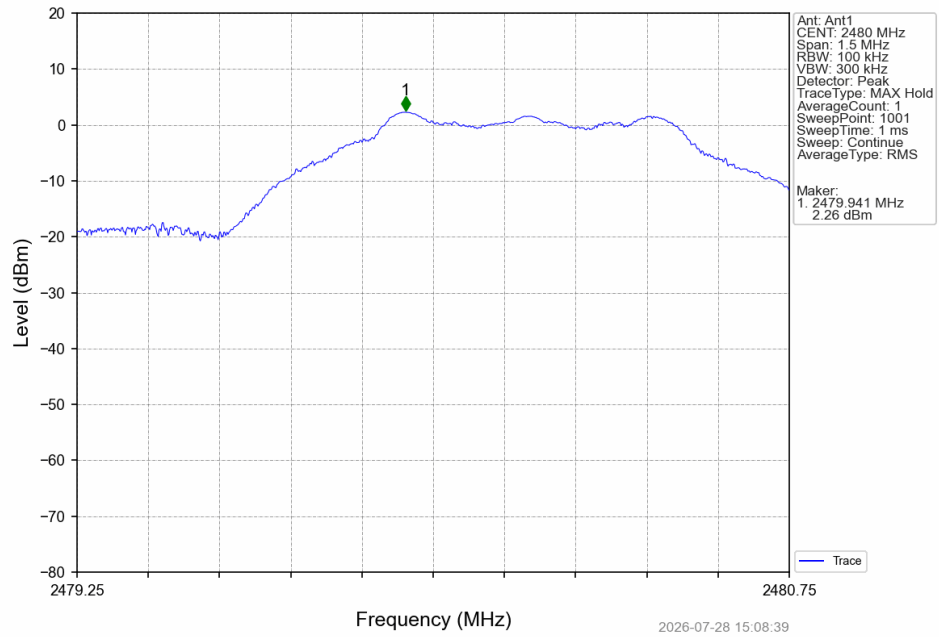
1M_LCH_2402MHz_Ant2_NTNV



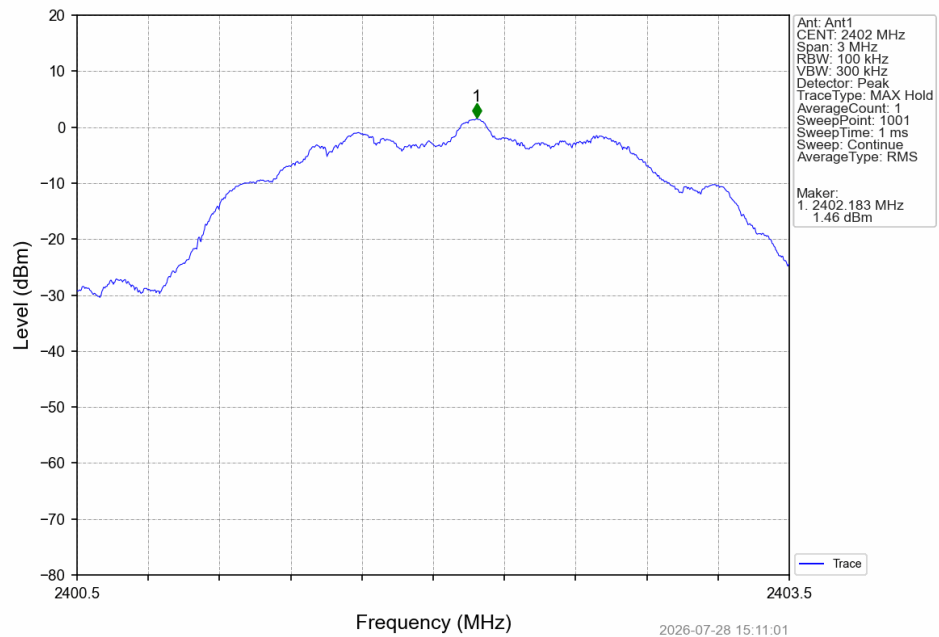
1M_MCH_2440MHz_Ant2_NTNV



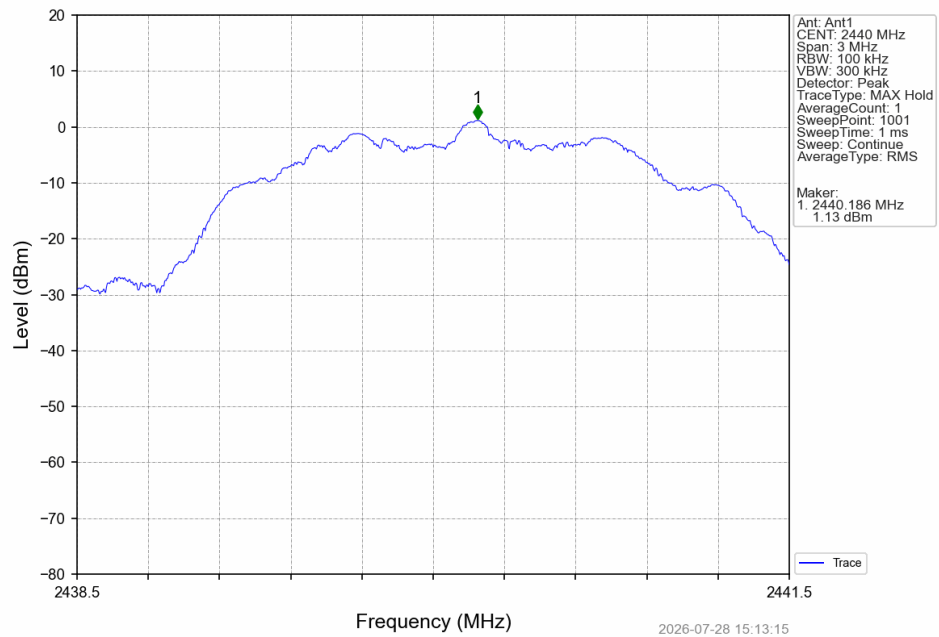
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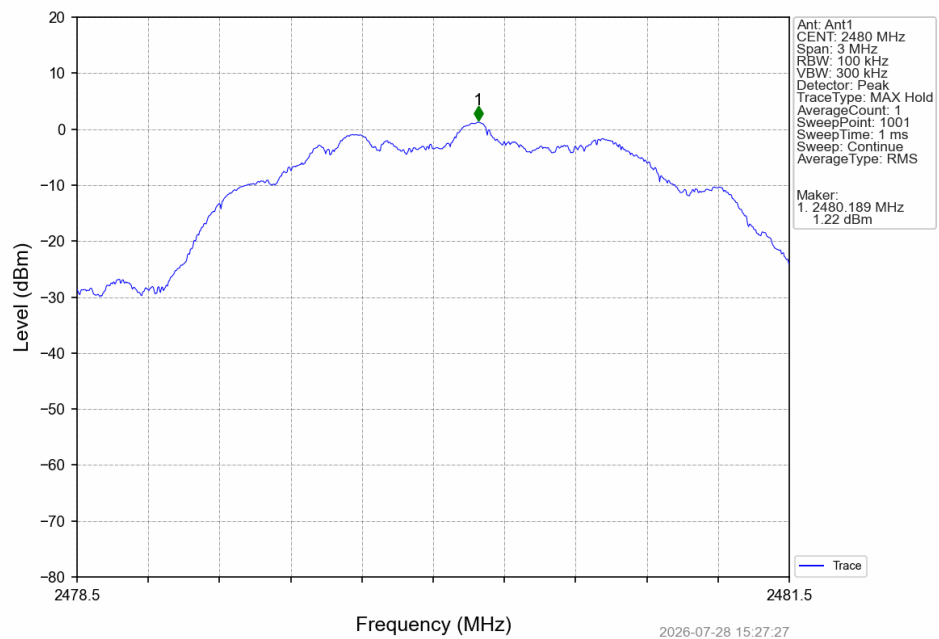
2M_LCH_2402MHz_Ant2_NTNV



2M_MCH_2440MHz_Ant2_NTNV



2M_HCH_2480MHz_Ant2_NTNV



5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	-1.04
		2440	1	-0.26
		2480	1	0.06
2M	SISO	2402	1	-1.93
		2440	1	-0.88
		2480	1	-0.64

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	2	2.39
		2440	2	2.15
		2480	2	2.23
2M	SISO	2402	2	1.52
		2440	2	1.27
		2480	2	1.37

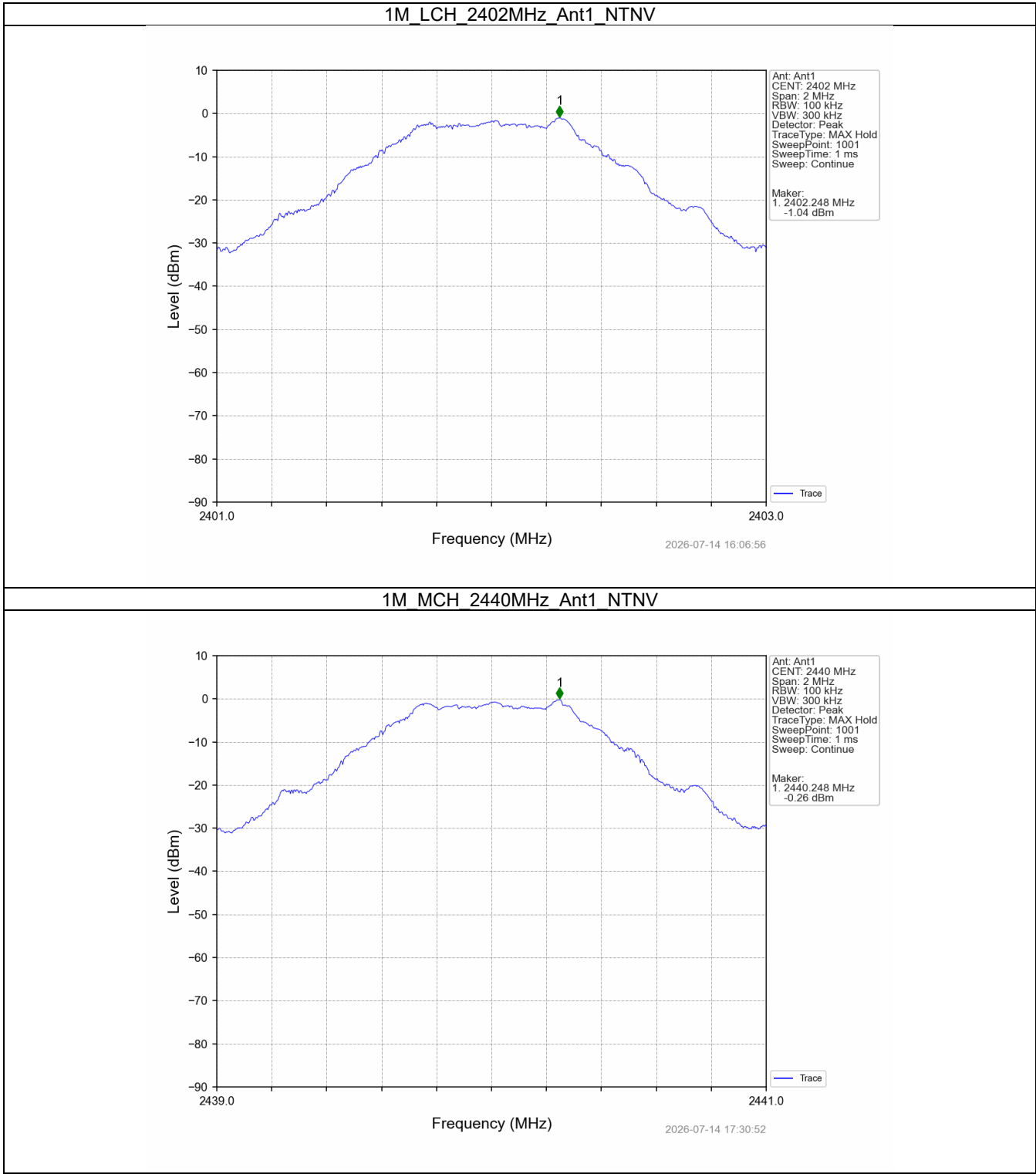
5.1.2 CSE

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	-1.04	-21.04	Pass
		2440	1	-0.26	-20.26	Pass
		2480	1	0.06	-19.94	Pass
2M	SISO	2402	1	-1.93	-21.93	Pass
		2440	1	-0.88	-20.88	Pass
		2480	1	-0.64	-20.64	Pass

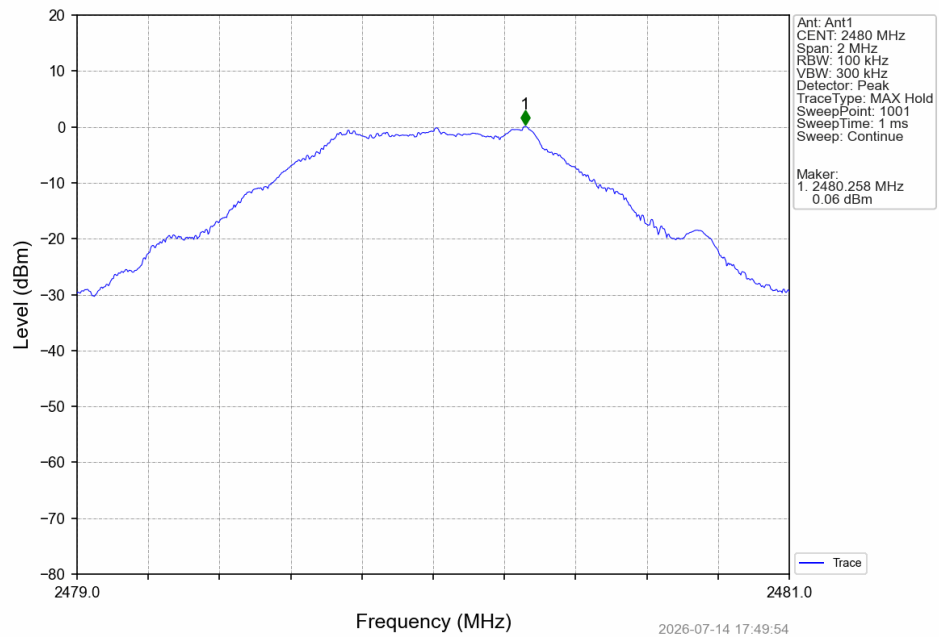
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	2	2.39	-17.61	Pass
		2440	2	2.15	-17.85	Pass
		2480	2	2.23	-17.77	Pass
2M	SISO	2402	2	1.52	-18.48	Pass
		2440	2	1.27	-18.73	Pass
		2480	2	1.37	-18.63	Pass

5.2 Test Graph

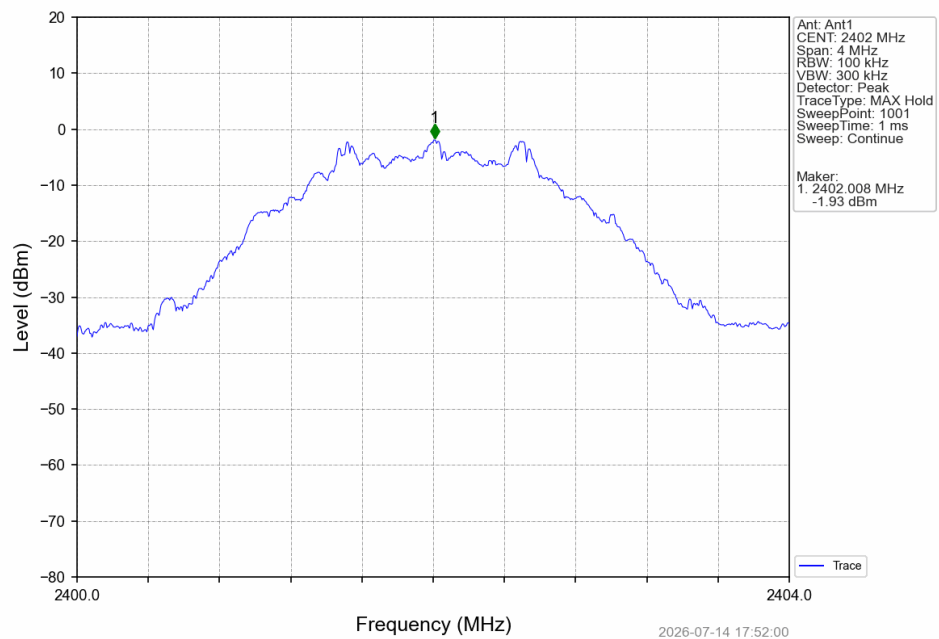
5.2.1 Ref



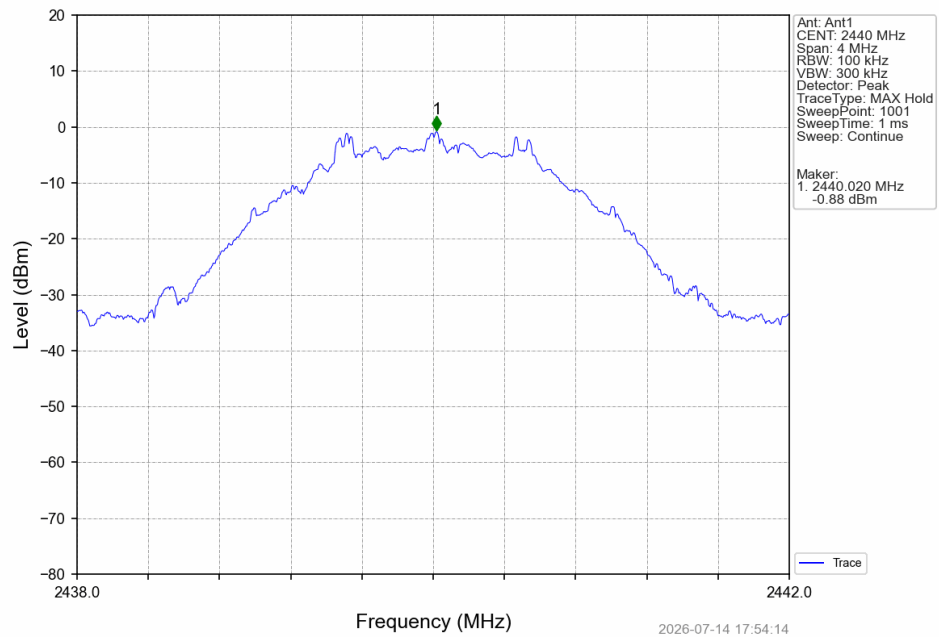
1M_HCH_2480MHz_Ant1_NTNV



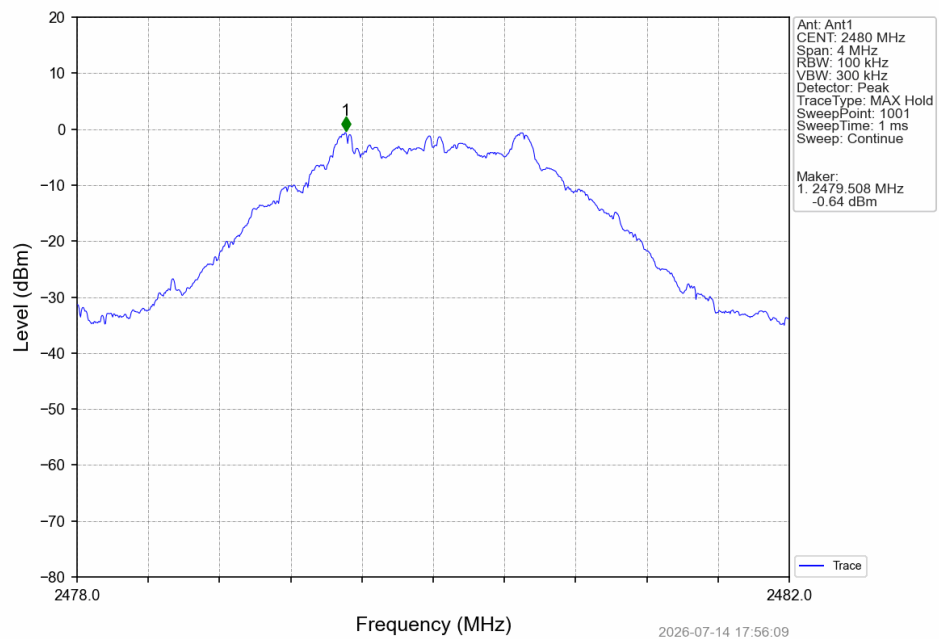
2M_LCH_2402MHz_Ant1_NTNV



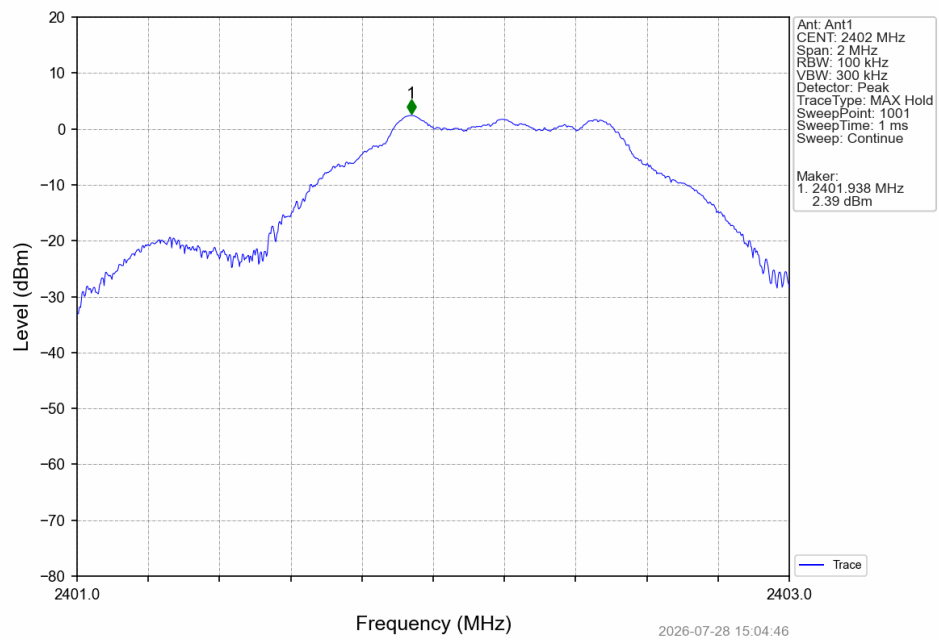
2M_MCH_2440MHz_Ant1_NTNV



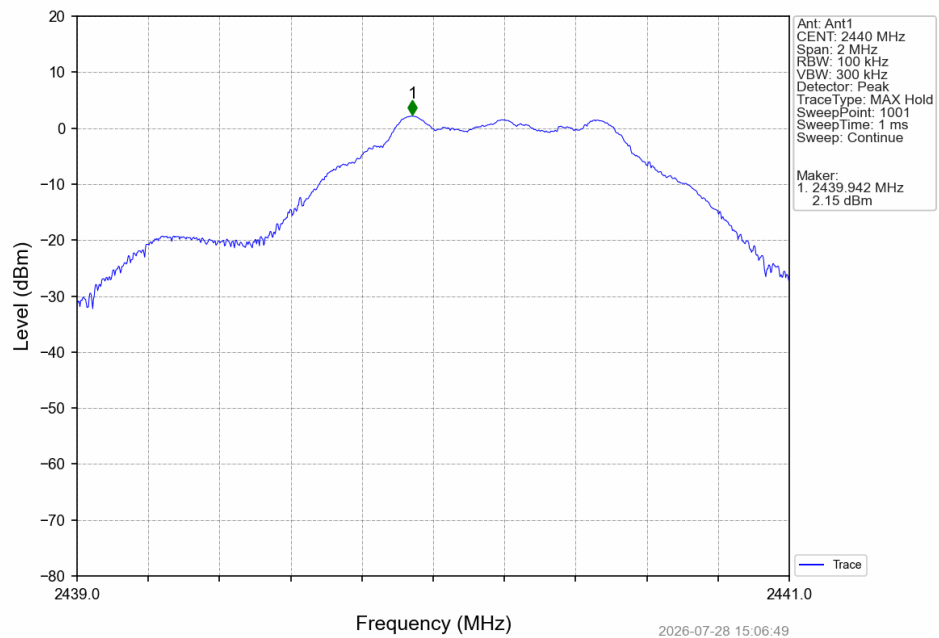
2M_HCH_2480MHz_Ant1_NTNV



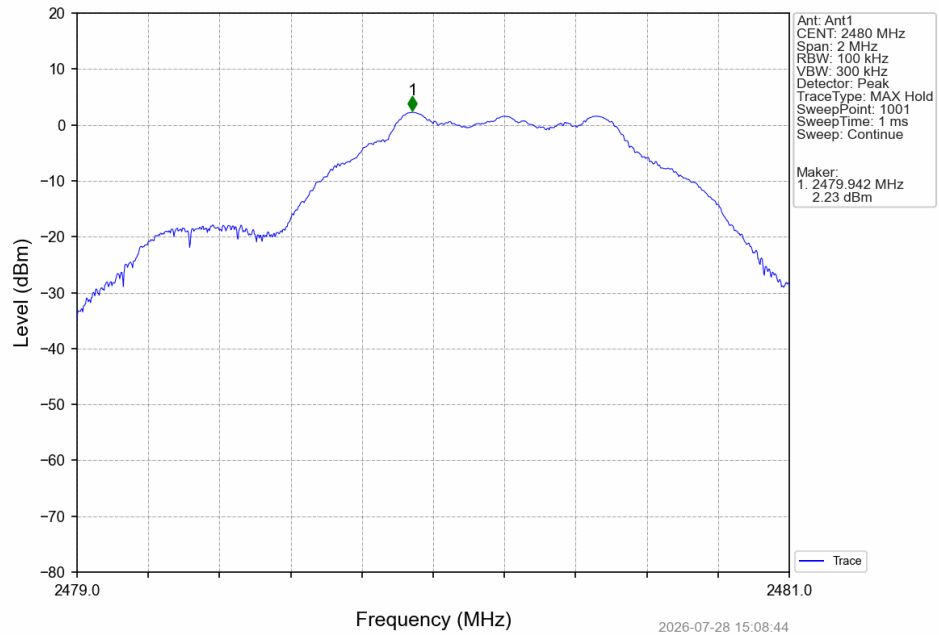
1M_LCH_2402MHz_Ant2_NTNV



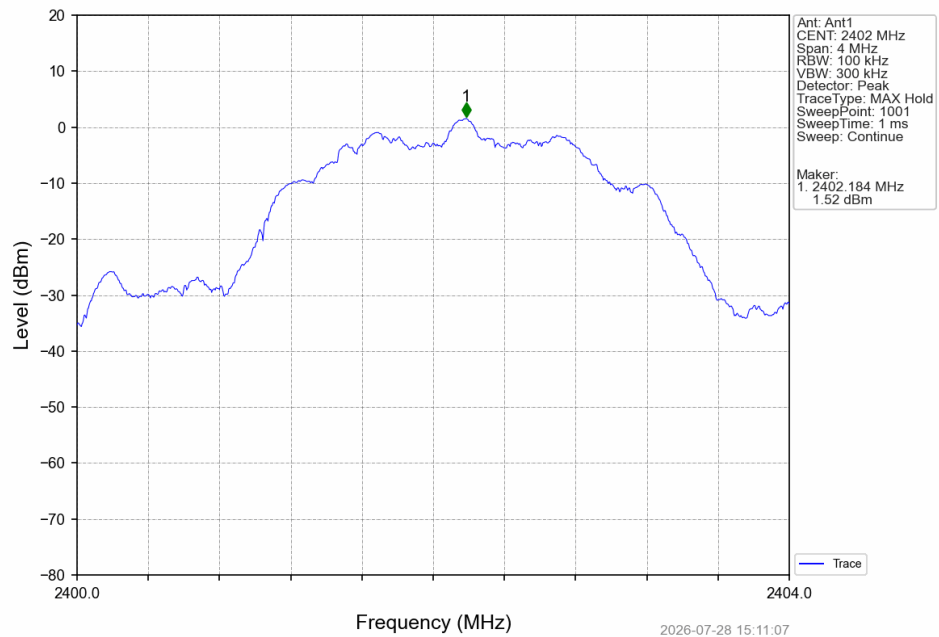
1M_MCH_2440MHz_Ant2_NTNV



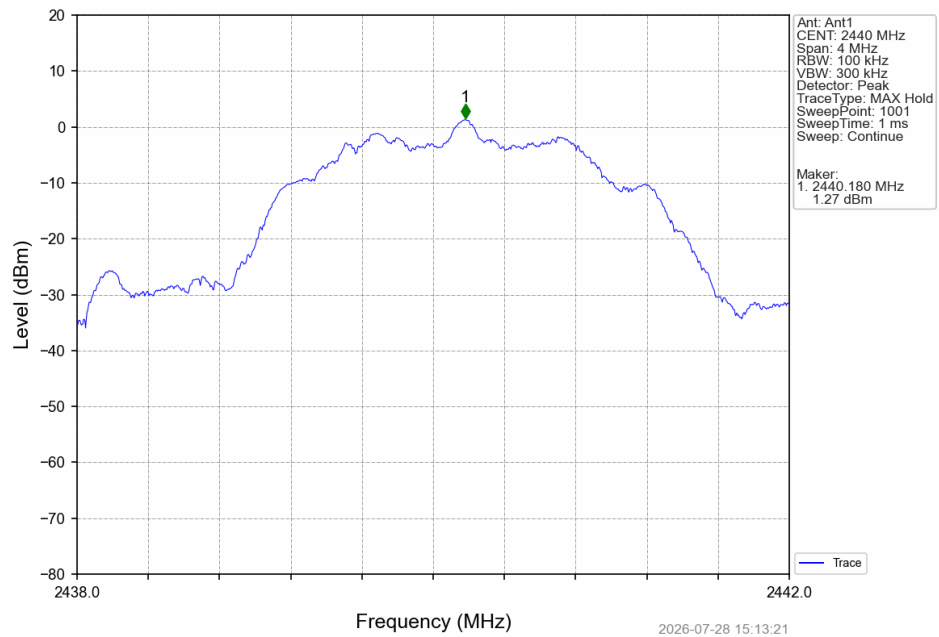
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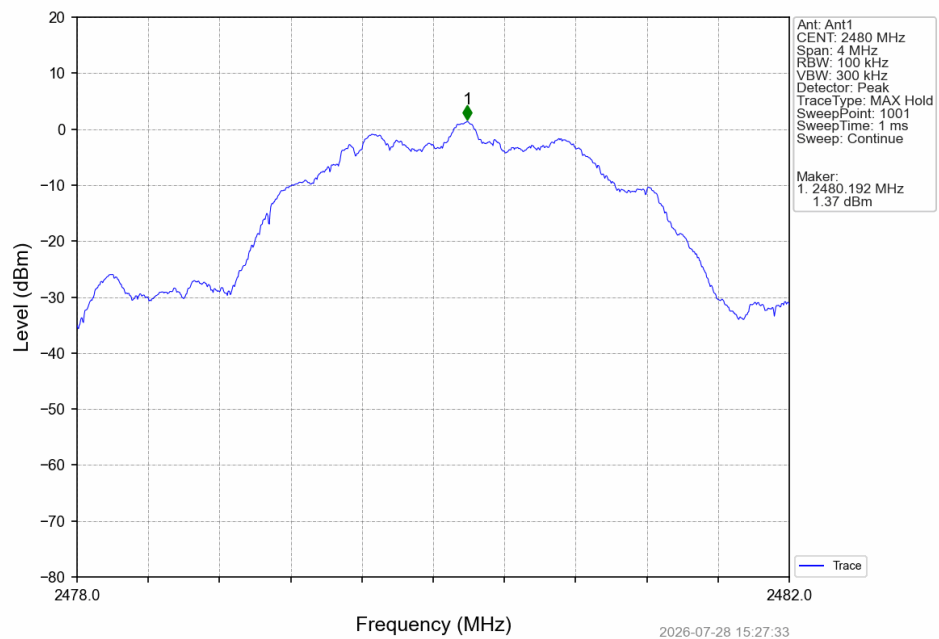
2M_LCH_2402MHz_Ant2_NTNV



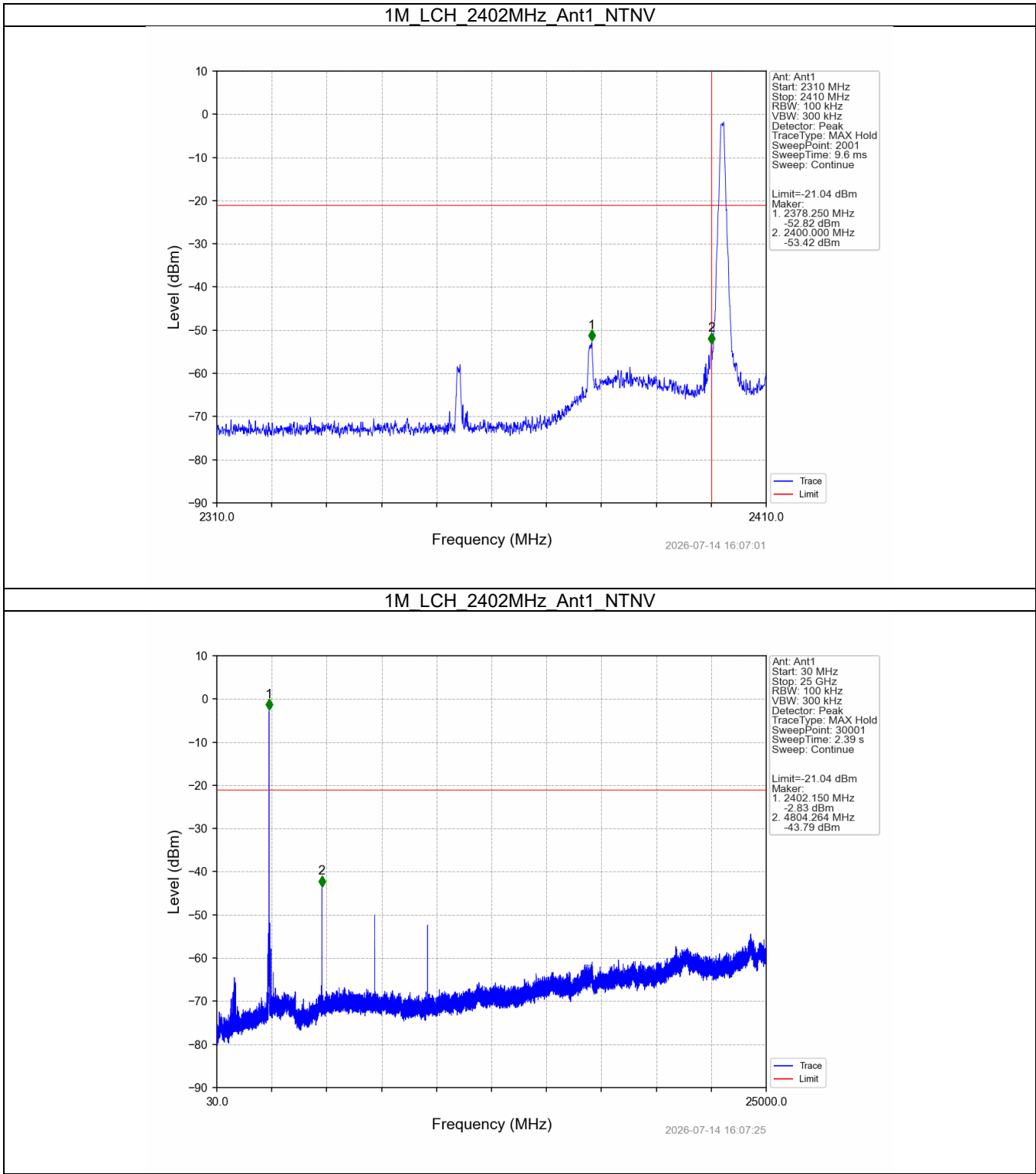
2M_MCH_2440MHz_Ant2_NTNV



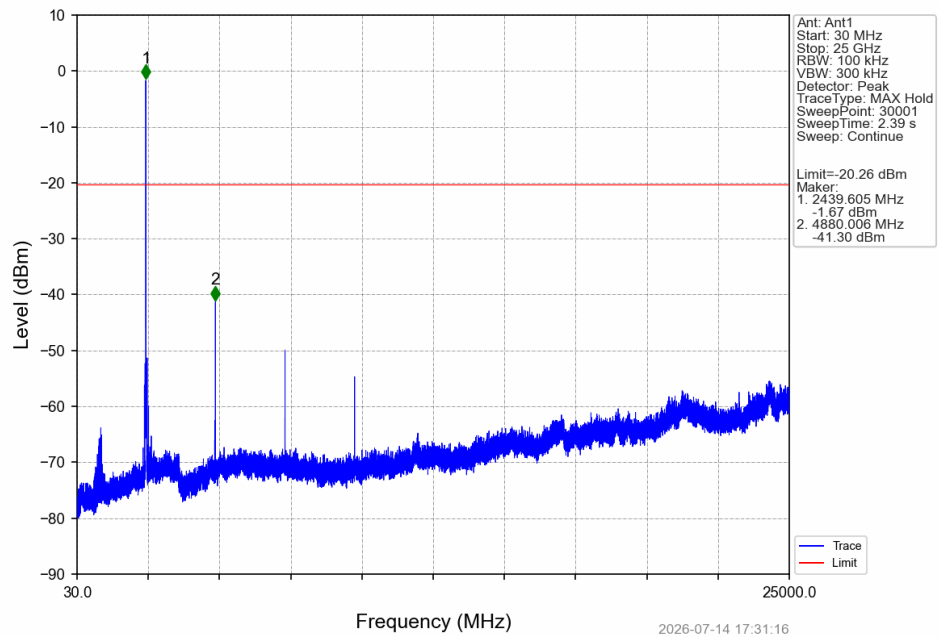
2M_HCH_2480MHz_Ant2_NTNV



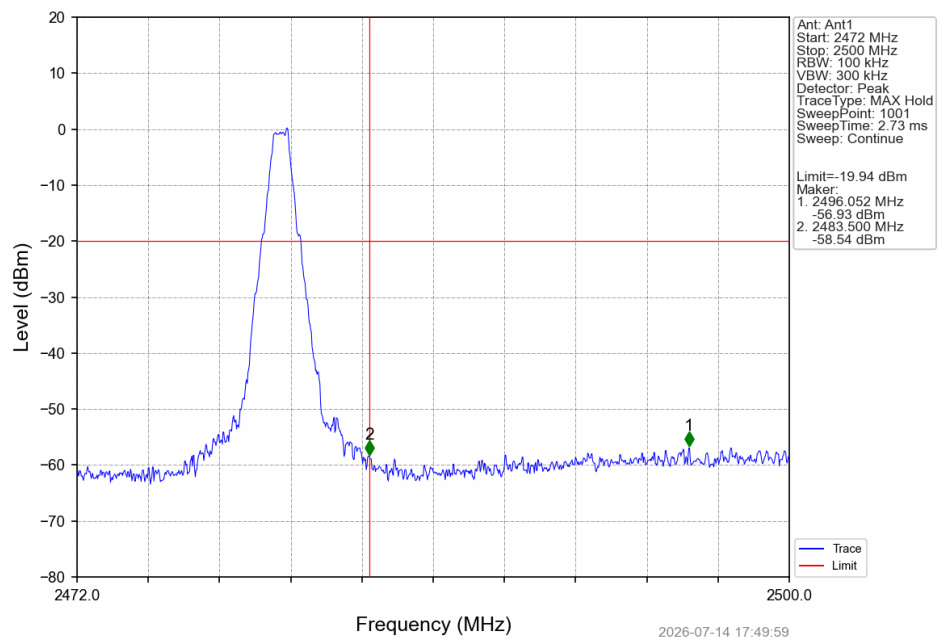
5.2.2 CSE



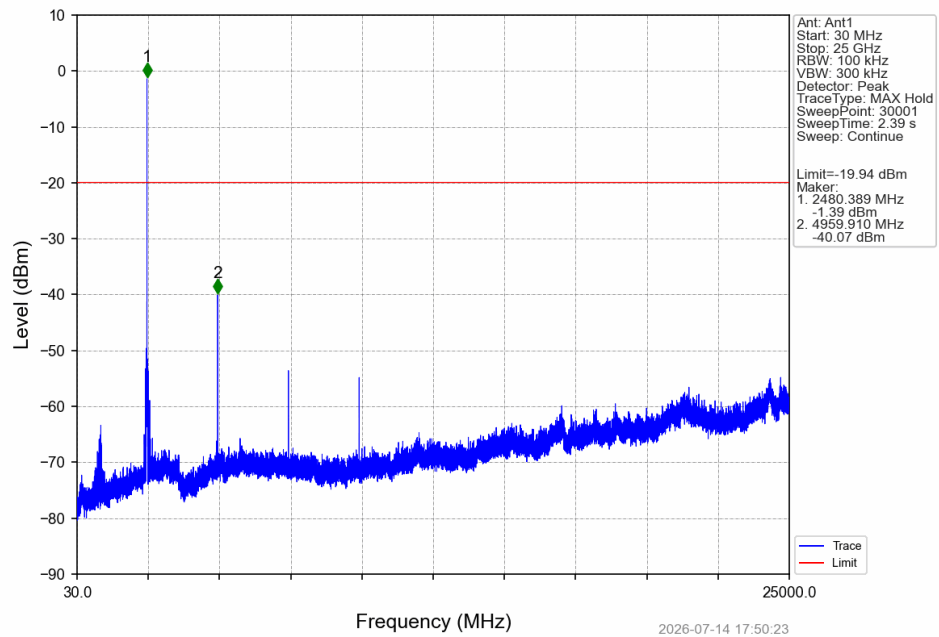
1M_MCH_2440MHz_Ant1_NTNV



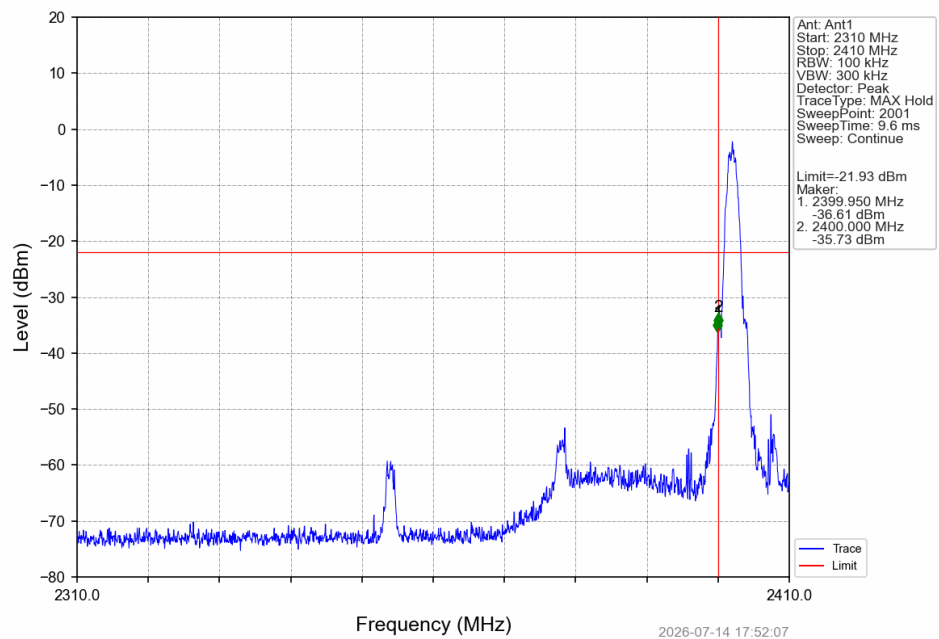
1M_HCH_2480MHz_Ant1_NTNV



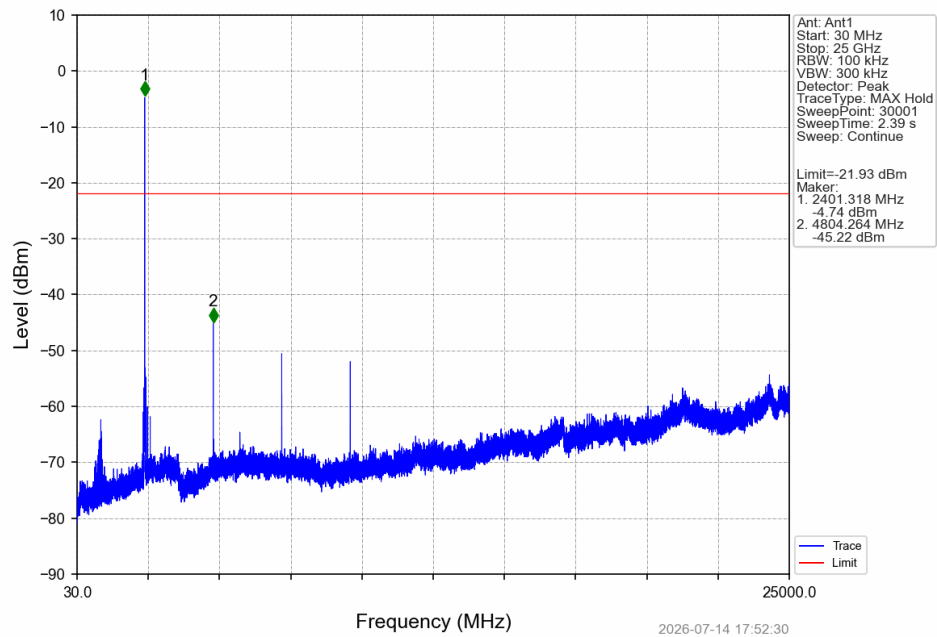
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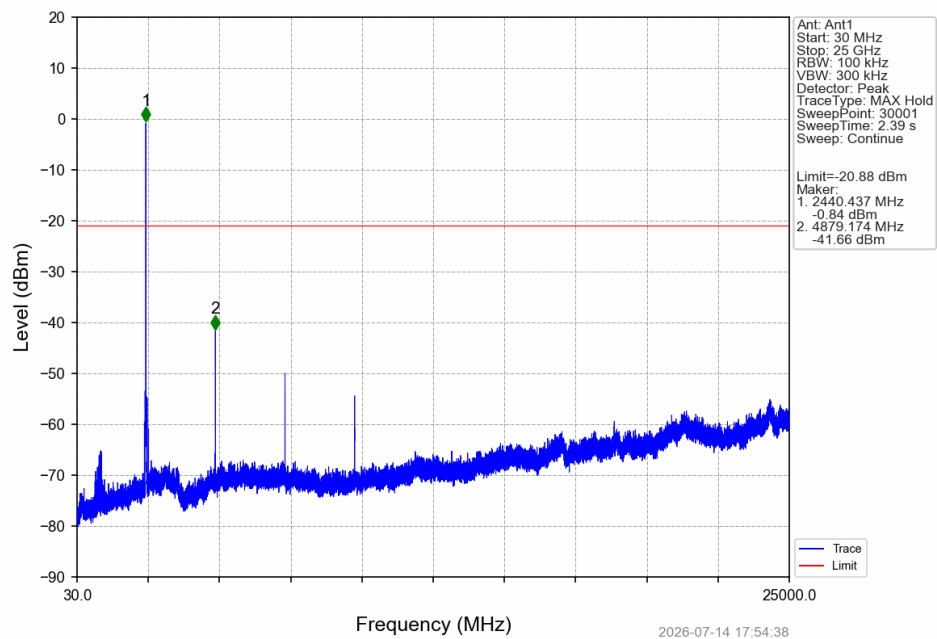
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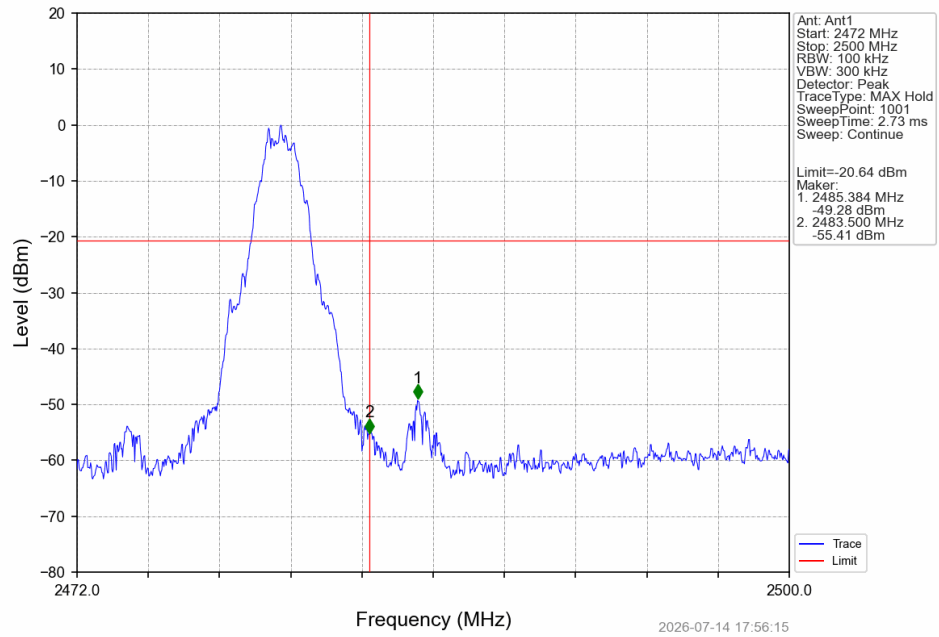
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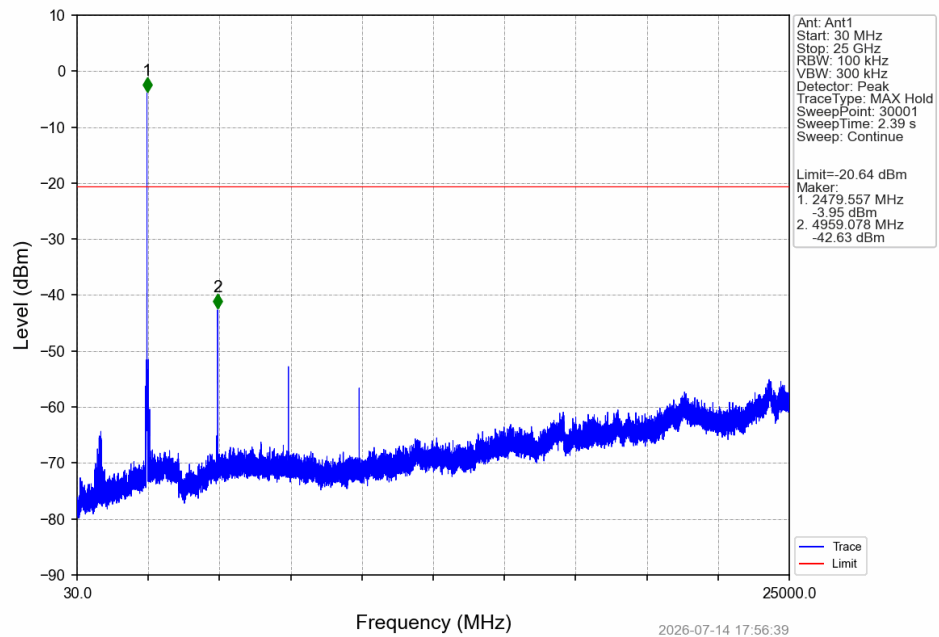
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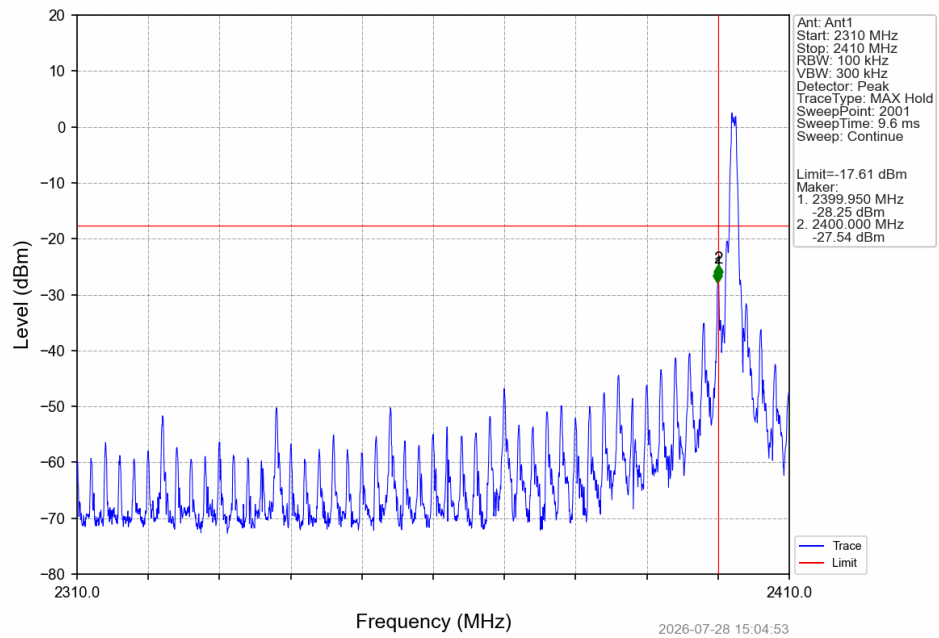
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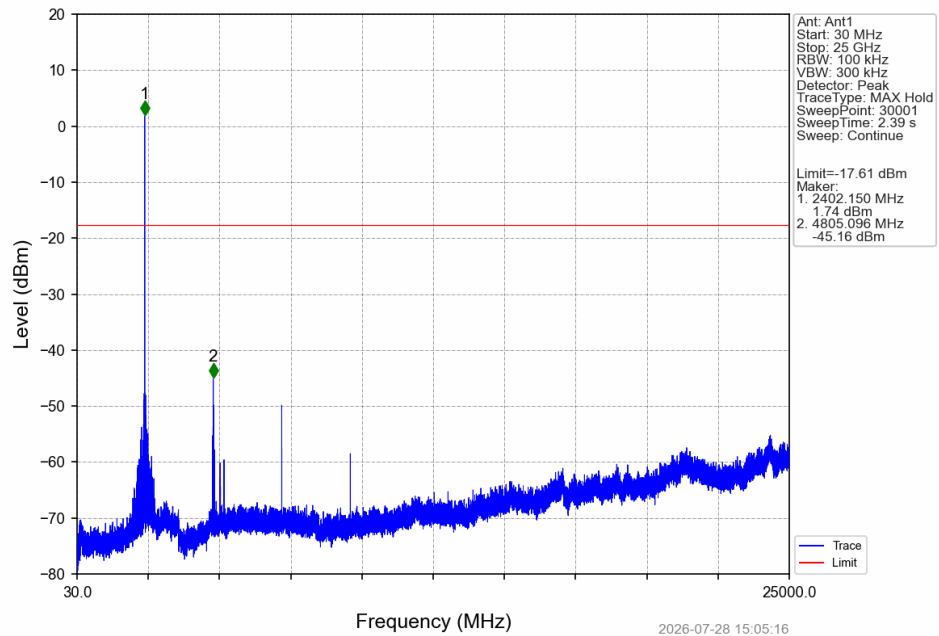
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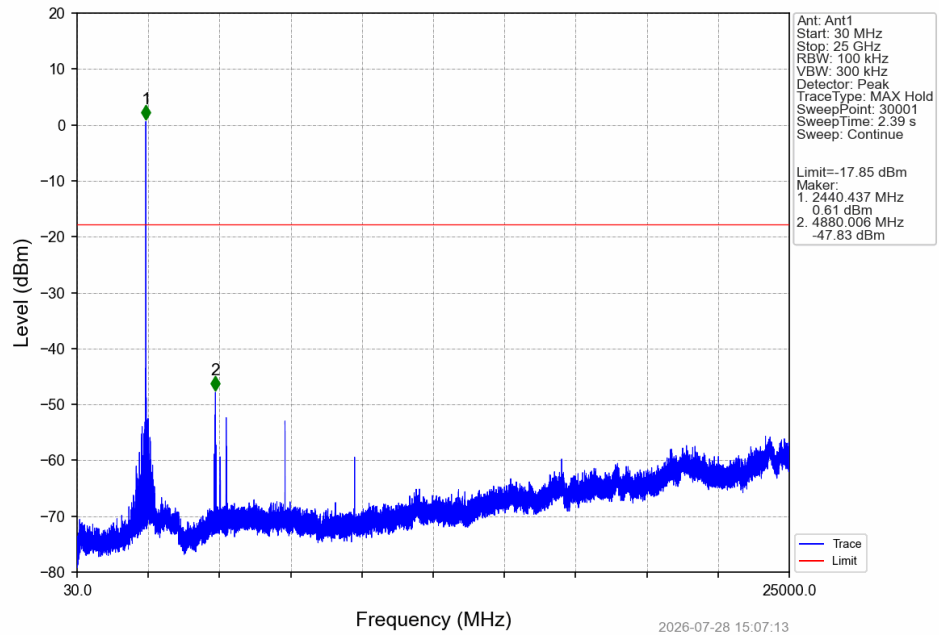
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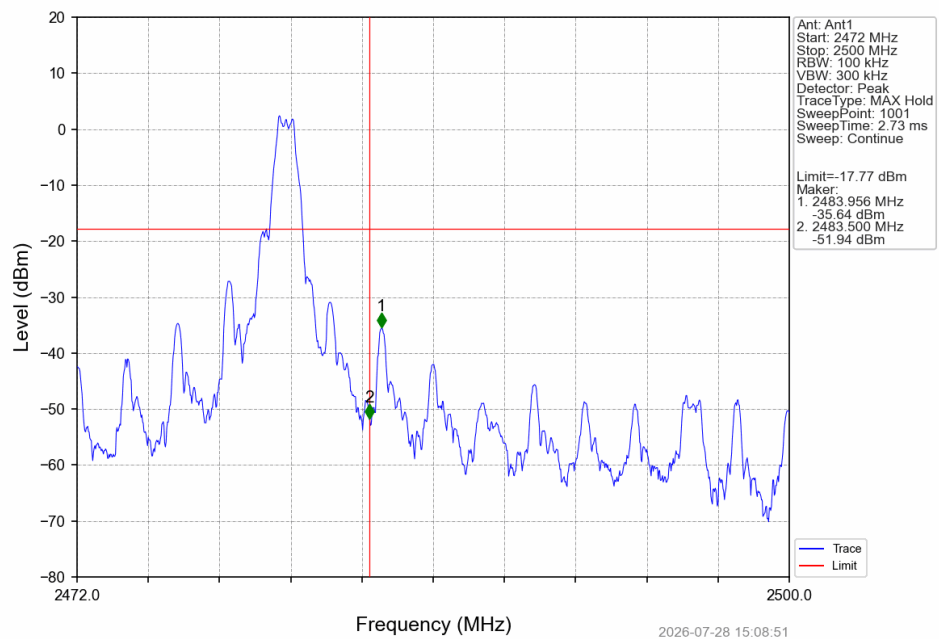
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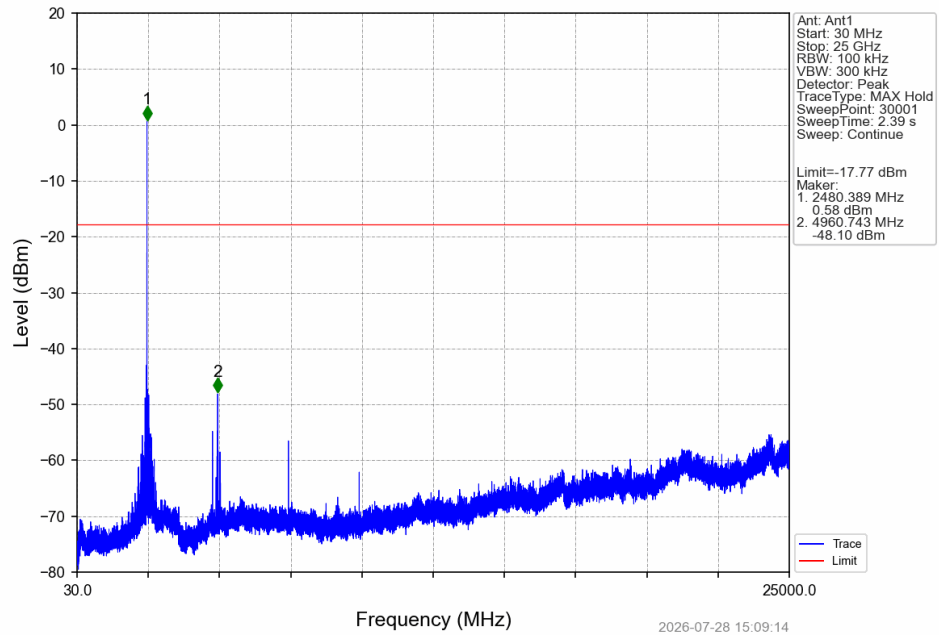
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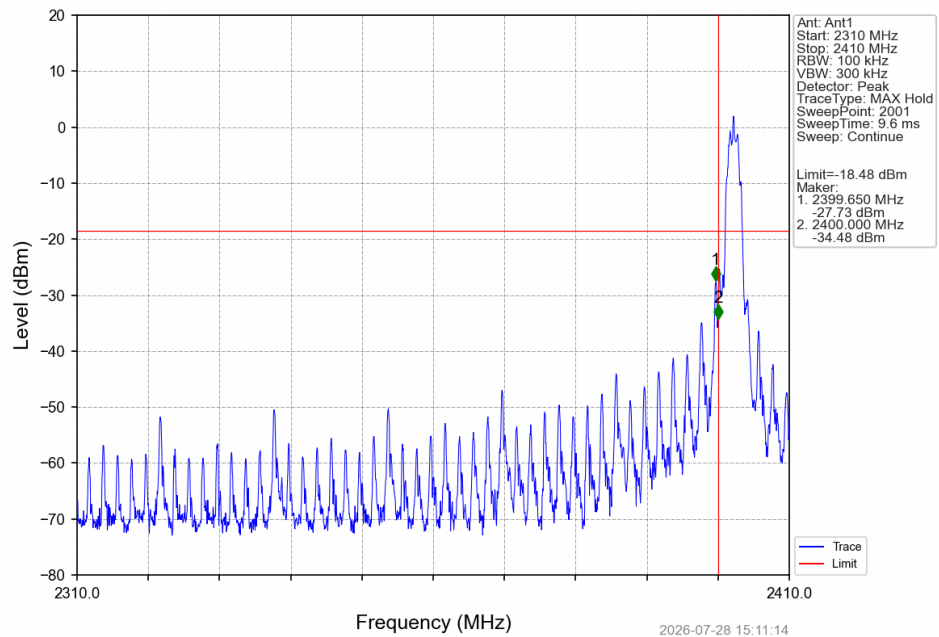
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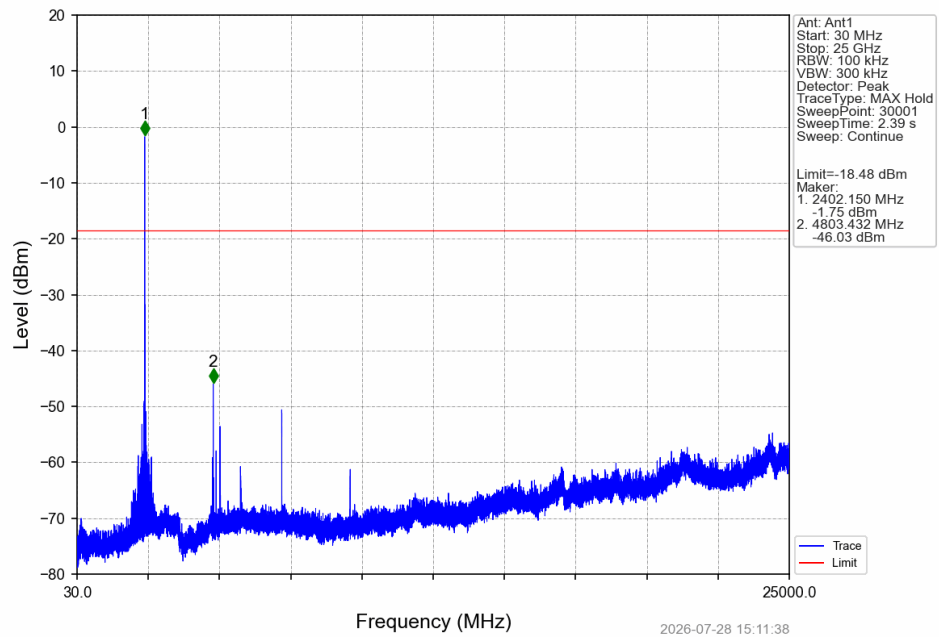
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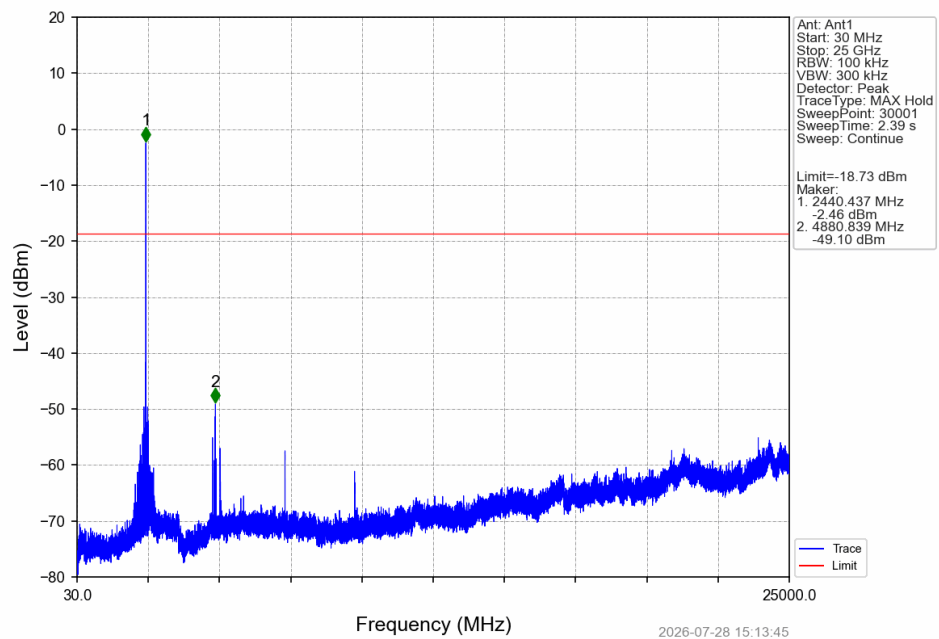
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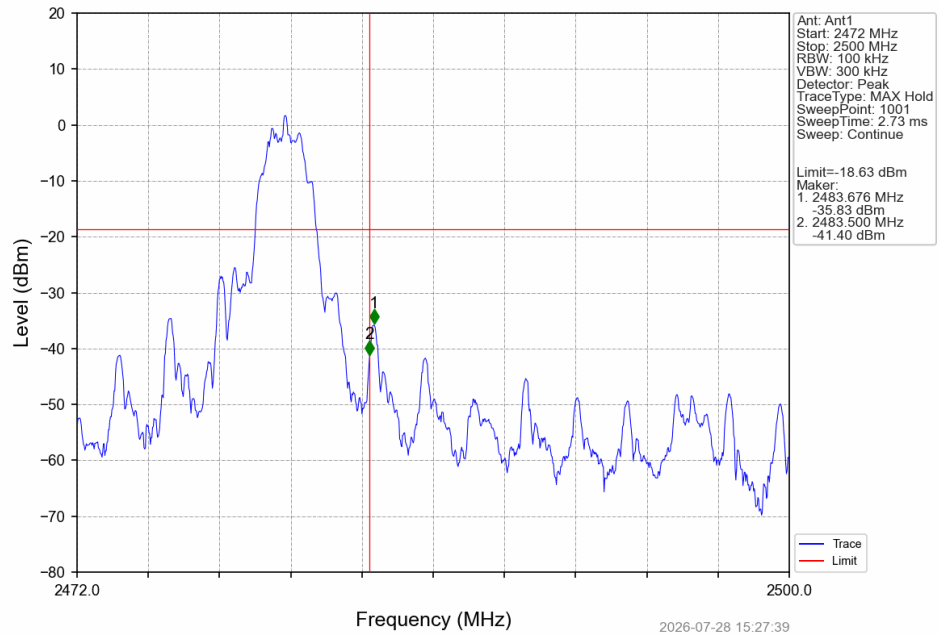
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2M_MCH_2440MHz_Ant2_NTNV



2M_HCH_2480MHz_Ant2_NTNV



2M_HCH_2480MHz_Ant2_NTNV

